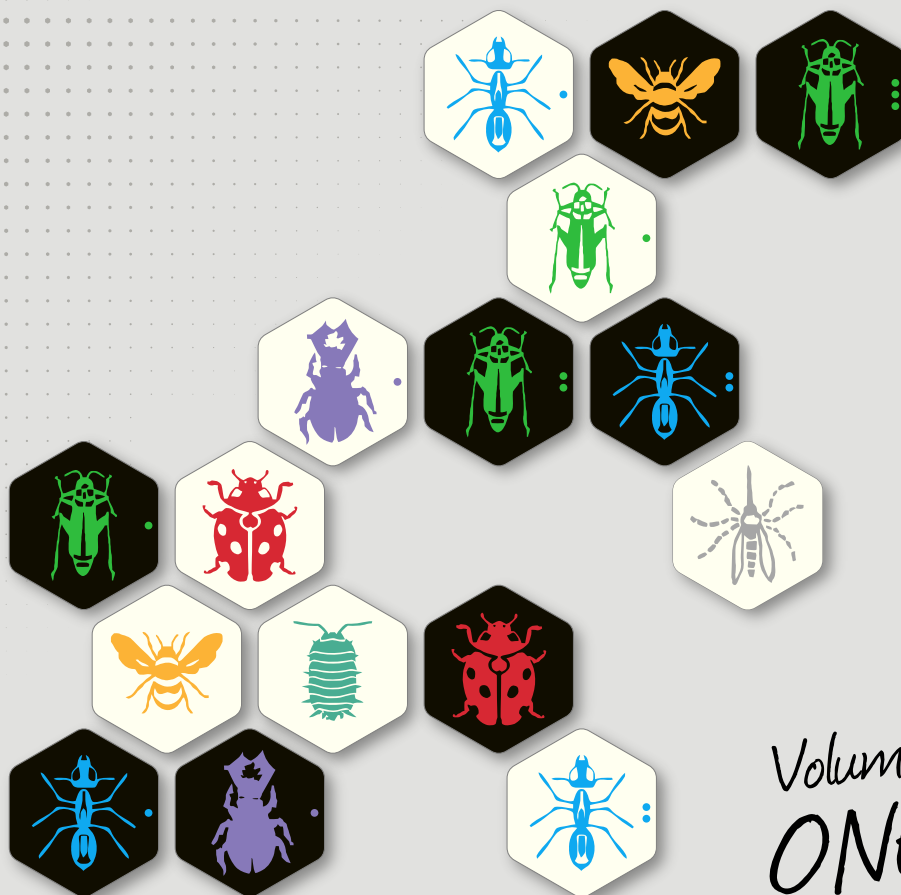


# WAVE<sup>®</sup>

## PUZZLES



Volume  
**ONE**

Enrique Sedano • Jonas Kronander • Christian Sperling

6 aUg\_ W f hWde[a` , \$" \$#Z&Z%2 #&,\$\*

: [hW@ [e S dW [efWdW fdSVW\_ Sd] aX9W &\$ 9S\_ Wé >fV1 >a` Va` †G` [fWV = [ YVa\_ ž  
3 ^: [hW@ dWSfWV [ \_ SY [ Wk S` V h[egS`e SdWgeWV i [fZ bWd\_ [ee[a` ž  
Bgll Wk >a [l †fZW07` fa\_ a`aY[efl 8ad9 affW †9S` VSU† 5`SgV[g;ad/SUZ WV\T ageel  
;ZS[S` W †S` V 8dSeJa dWb daVgUWV i [fZ fZWbWd\_ [ee[a` aXfZ WSgfZ a dēž  
FZ[e VaUg\_ W f [e XdWk V[efd[TgfWV S` V` af fa TWea V [ S` k Xad\_ ž  
5abkdYZf © 7` d[cgWEWV S` at <a` Se =da` S` VW† 5Z d[ef[S` EbWd† Y† \$" \$#Z

\$POUFOU

\*OUSPEVDUJPO

'PSFXPSE

\*OUSPEVDUJPO

"DLOPXMFHFNFOUT

)PX UP VTF UIJT CPPL

/PUBUJPO

1V[[MFT

&BTZ

\*OUFSNFEJBUF

&YQFSU

.BTUFS

)JOUT

4PMVUJPOT

3FGFSFODFT

"CPVU UIF BVUIPST

1BHF JOURNAL POBMMZ MFGU CMBOL

'PSFXPSE

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TIFMG HBUIFSJOH EVTU GPS UISFF ZFBST VOUJM B HPPE GSJFOE PG NJ  
PQFOFE NZ FZFT UP UIF CFBVUZ PG UIF HBNF BOE IFMQFE NF UP CFDPI  
HBNF QMBZFS 8JUI UIBU dSTU BDIJFWFNFOU VOEFS NZ CFMU BT GPVO  
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BOZ PUIFS HBNF CFGPSF \* IBE CFFO UJOLFSJOH GPS BXIJMF XJUI UIF J  
B DPNQJMBUJPO PG QV[[MFT CVU \* OFWFS JOWFTUFE UIF BNPVOU PG U  
GSVJUJPO \*O/PWFNCFS NPSF UIBO POF BOE B IBMG ZFBST BGFUS  
ESBGU \* FODPVOUFSFE BOPUIFS QV[[MF JOB TPDJBM NFEJBHSPVQBCF  
UJNF DSB DLJOH JU BOE BENJSFE JUT FMFHBOU TPMVUJPO 5IF UIPVHIU  
VOEFS IVOESFET PG OFX DIBU NFTTBHFT GBEJOH JOUP PCMJWJPO BOE  
VOFBSUIFE BHBJO XBT UIF QSPWFSCJBM TUSBX UIBU CSPLF UIF DBNFI  
UIJT IBQQFO BOE HPU UP XPSL

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MJOLT UP QV[[MFT GPS TPNF UJNF BT XFMM /BUVSBMMZ JUNBEF TFOT  
PSBUF XJUI IJN " DPVQMF PG XFFLT XFOU CZ BT XF QMPXFE PVS XBZ UIS  
CFDBNF DMFBS PVS MJUUMF QSPKFDU XPVME CFOFDU HSFBUMZ GSPN S  
CPUI JO )JWF BOE HSBQIJD EFTJHO 8F DPOWJODFE IJN UP KVNQ BCPBS  
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\* OPX QSPVEMZ MPPL BU PVS dSTU QV[[MF WPMVNF BOE JU JT TP NVDI N  
IBWF EPOF KVTU CZ NZTFMG +POBT BOE \$ISJTUJBO IBWF DPOUSJCVU  
PG ESJWF QBTTJPO BOE DBSF GPS EFUBJM MFBEJOH UP UIF dOBM SF  
NZ FYQFDUBUJ POT \* DPVME OPU CF IBQQJFS XJUI UIF CPPL BOE UIF G  
QMFBTVSF UP UFBN VQ XJUI

&OSJRVF 4FEBOP

\*OUSPEVDUJPO

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UIFZ EP ZPV IBWF B XBZ GPSXBSE

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XBTO@U TQFDJdD FOPVHI \*U SBUIFS DPOWFZT UIF DPSF JEFB PG BOZ  
BOE NPTU PUIFS BCTUSBDU TUSBUFHZ HBNFT

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CFUXFFO UPQ MFWFM )JWF QMBZFST 5P PCTFSWF IPX NBTUFST EP JU  
QSBDUJTF JO ZPVS PXO HBNFT JT BOPUIFS 5IF HPPE OFXT JT SFBDIJC  
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FWFS NBOZ PG UIFNEJEO@U SFBDBXJEFTQSFBEBVEJFODF BOE JO UI  
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WPMVNF JTPVSBUFFNQU UP QSFTFSWF UIPTF QV[[MFT UPHJWF UIFNU  
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&WFO UIPVHI TJHOJdDBOU FGGPSU IBT CFFO QVU JOUP QSPPGSFBEJOH  
BOE DIFDLJOH UIF TPMVUJPOT XF BDLOPXMEHF UIF QPTTJCJMJUZ PG  
VOEFUFDUFE UZQPT UIBU NJHIU IBWF TOVDL JO \$PSSFTQPOEJOHMZ  
XF XPO@U CF TVSQSJTFE JG BMUFSOBUJWF TPMVUJPOT GPS UIF QV[[  
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TPMVUJPOT PS EFNPOUSBUF CFZPOE EPVCU UIBU B QV[[MF DBO CF  
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DPVSTF XF BMTM MJLF UP UIBOL +PIO :JBOOJ BOE (FO (BNFT GPS PO  
FWFS DSFBUE

8F UIBOL 5IF@&OUPNPMPHJTU GPS IJT JOWBMVBCMF QPTJUJPO FEJU  
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UJ POT GPS BMM UIF QV[[MFT JO UIJT CPPL

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#PBSE(BNF(FFL

8F MJLF UP DSFEJU 1BUSJL #FSHHSFO )BQQZ,JXJ GPS IJT IFMQ EVSJ  
BT XFMM BT \$ISJTUJBO (BMFBT 2VPEMJCFU GPS UFTUJOH JU BOE W

8F BSF HSBUFGVM UP 3BOEZ \*OHFSTPMM SJOHFSTPMM BOE \$PEZ ,VC  
SFWJFXT BOE EFUBJMF E GFFECBDL DPOUSJCVUJOH UP UIF JNQSPWFN

-BTU CVU OPU MFBTU XF MJLF UP FYUFOE PVS HSBUJUVEF UP PVS GBN  
VQ XJUI VT EFTQJUF PVS PCTFTTJPO GPS )JWF 8JU IPVU ZPVS TVQQPS  
UIJT DPNQJMBUJPO PG QV[[MFT XPVME DFSUBJOMZ IBWF CFFO B NVDI C

)PX UP VTF UIJT CPPL

5IF NBJO CPEZ PG UIJT CPPL JT EJWJEFB VQUMF JOSBFOEF DVWRBOT





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PDDVQJFT B TJOHMF QBHF "GUF S UIF QV[[MF OVNCFS BOE UIF BVUIPS  
PG UIF QV[[MF@T PCKFDUJWF JT QSPWJEFE 5IF )JWF QJFDFT dMM VQ U  
BT B DMJDLBCMF FMFNFOU UIBU XJMM UBLF ZPV UP BO FEJUBCMF WFST  
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5IF)JOUFDUJPO PGGFST BTTJTUBODF JG ZPV FWFS HFU TUVDL JO ZPVS  
\*O NPTU DBTFT ZPV BSF HJWFO POF PS UXP TFOUFODFT DPOUBJOJOH  
UIF QV[[MF

\*O PSEFS UP DIFDL JG UIF TPMVUJPO ZPAPMPVUJFOU DPS SFDUUIF JO  
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BMTP CF GPVOE UIFSF

# /PUBUJPO

\*O UIF TPMVUJPO TFDUJPO PG UIJT CPPL XF VTF UIF OPUBUJPO DPOV  
UIFEF GBDUBOEBSE JO UIF )JWF DPNNVOJUZ BOE XIJDI PSJHJOBMMZ >  
CPBSETQBDF OFU

## 1JFDFT

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UISFF DIBSBDUFST FBDI PG UIFTF SFQSFTFOUJ OH

5IF DPMP S PG UIF QJFDF XJGMPXICSB #MBDL

5IF UZQF PG QJFDF JO VQQFSDBTF

- " GPS "OU . GPS .PTRVJUP
- # GPS #FFUMF 1 GPS 1JMMCVH
- ( GPS (SBTTIPQQFS 2 GPS 2VFFO #FF
- GPS -BEZCVH 4 GPS 4QJEFS

'PS QJFDFT XJUI NVMUJQMF DPQJFT B OVNCFS JEFUJGZJOH UIFN

'PS FYBNQMFJT UIF dSTU 8IJUF "OU BEEFE UR(UJFTUWFFUBISE #MBDL  
(SBTTIPQQFS UP FOUFS UIF IJWF

## .PWFT

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SFGFSFODF 5PEP UIJT XF VTF UISFF=BOEGSIFUFTZNCBMJPO QPTJUJ  
JT EFTDSJCFE BT UIF QJFDF UIF NPWJOH CVH BUUBDIFT UP FJUIFS QS  
=PS UP JOEJDBUF UIF SFMBUJWF QPTJUJPO PG UIF NPWJOH QJFDF XJU  
BUUBDIFT 5IF MJOF TUSFUDIJOH PVU GSPN UIF QJFDF OBNF QPJOUT U  
QJFDF UIBU JT NPWJOH UP PS TQBXOJOH BU UIBU MPDBUJPO \*O UIF G  
BMM TJY QPTTJCMF QPTJUJPO BSPVOE UIF 8IJUF (SBTTIPQQFS

\*O DBTF UIF NPWFNFOU XBT B #FFUMF DMJNCJOH PO UPQ PG BOPUIFS Q  
POMZ UIF OBNF PG UIF QJFDF UIBU JT CFJOH DPWFSE  
4PNF FYBNQMFT BSF

C" X2 5IF #MBDL "OU NPWFT UP UIF MPDBUJPO EJSFDUMZ TPVUI  
8IJUF 2VFFO

X# X( 5IF 8IJUF #FFUMF DMJNCT BUPQ UIF 8IJUF (SBTTIPQQFS  
8IFO B 1JMMCVH XBSQT BOPUIFS QJFDF UIF QJFDF CFJOH NPWFE JT QS  
XBSQJOH JU BOE B DPMPO 'PS FYBNQMF

X1 C( =C5IF 8IJUF 1JMMCVH XBSQT UIF #MBDL (SBTTIPQQFS OPSU  
UIF #MBDL -BEZCVH

\*O UIF TPMVUJPOT UIF UXP NPWFT JO FBDI UVSO BSF TFQBSBUFE CZ B D  
UIF NPWF CZ 8IJUF BOE UIFO UIF NPWF CZ #MBDL 8IFO B QMBZFS IBT OF  
JT GPSDFE UP QBTT UIJT JT JOEJDBUFE JO QJFDF NPWF FYQMJDJUI  
'JOBMMZ JO TPNF JOTUBODFT UIF NPWF QFSGPSNFE CZ POF PG UIF QM  
CF JSSFMFWBOU GPS FYBNQMF JG OPUIJOH DBO CF EPOF UP TUPQ B C  
LJMM TQPU BSPVOE B 2VFFO 'PS UIPTF DBTFT XF SFQMBDF UIF OBNF  
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X "OZ MFHBM NPWF CZ 8IJUF

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C C( >"OZ #MBDL CVH TQBXOT UP UIF FBTU PG UIF #MBDL (SBTTIP

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dOBM LJMM TQPU

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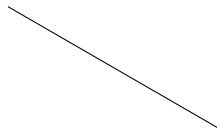
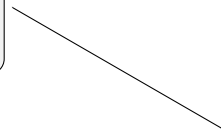
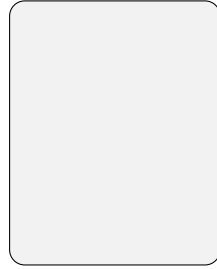
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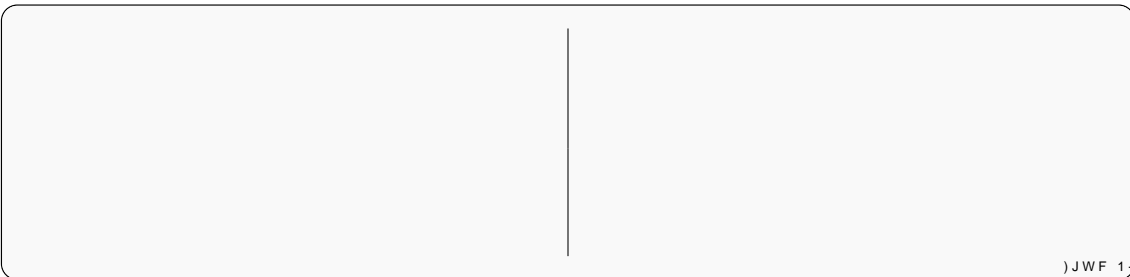
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CZ -PJ[[

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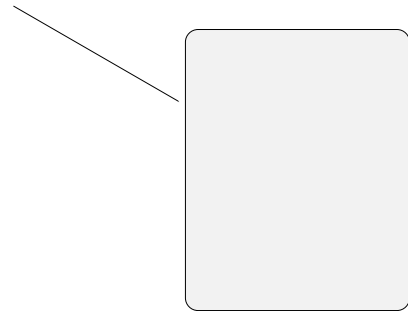
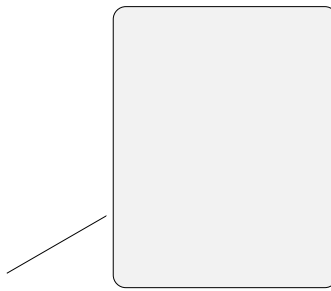
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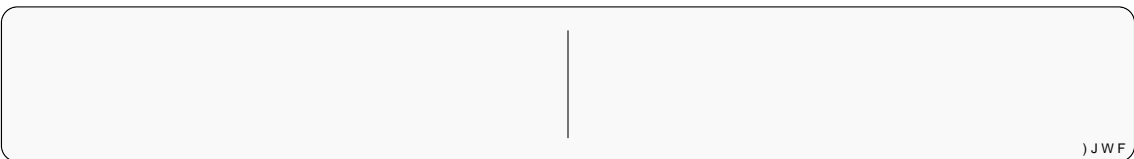
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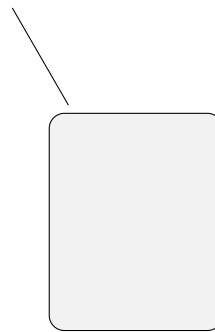
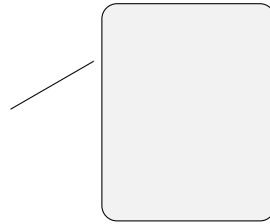
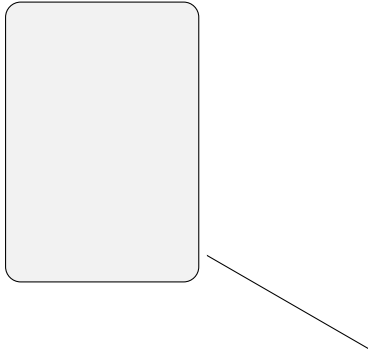
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CZ +POBT, F4FEBOPBOE &VDBMZY

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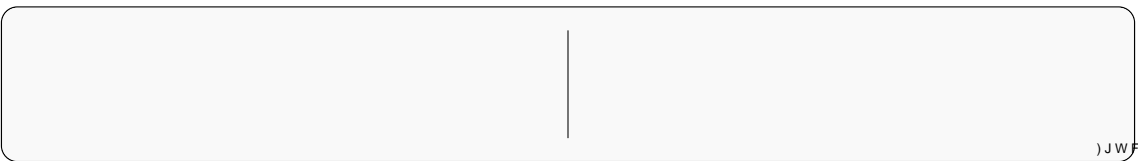
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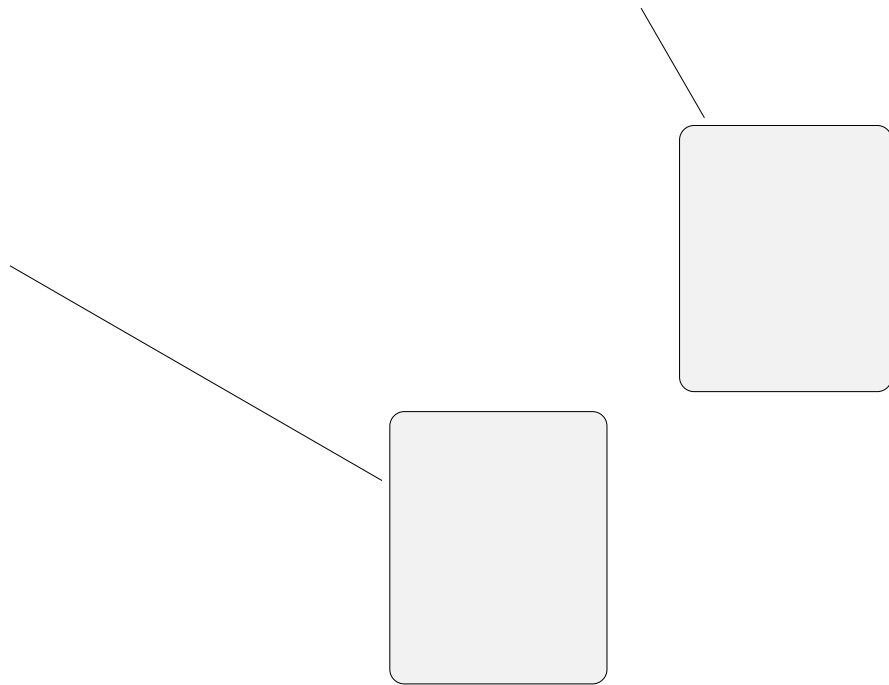




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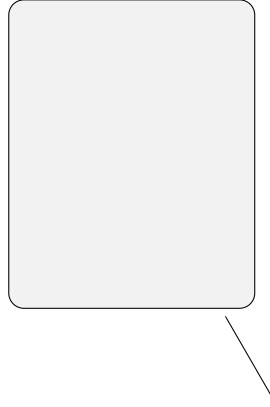
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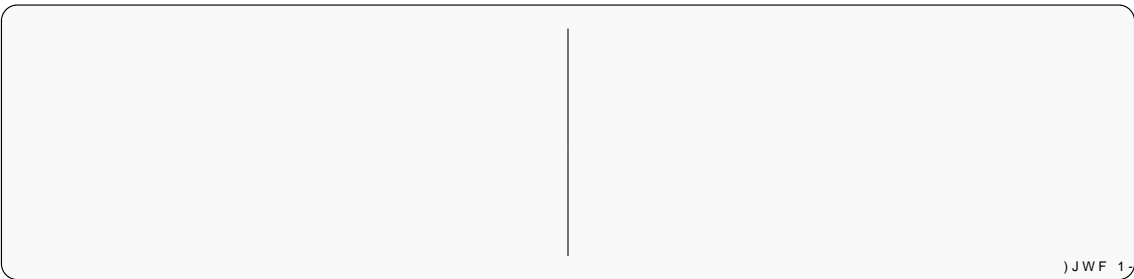
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CZ+POBT,

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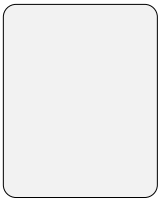
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1 V[[MF

CZ +POBT,

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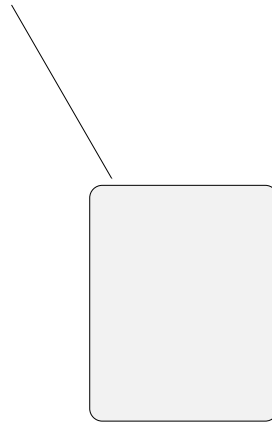
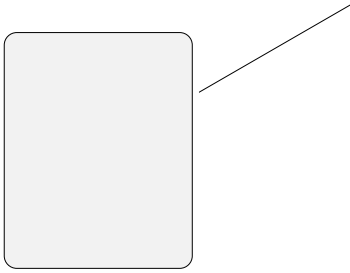
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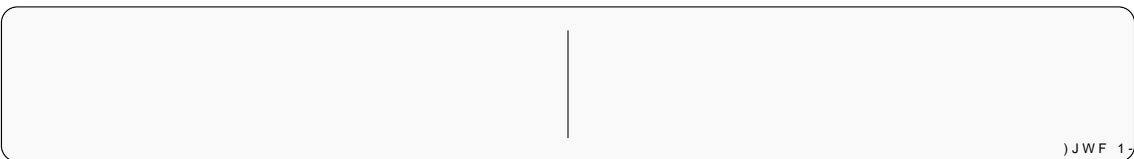
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#MBDL NPWFT OFYU 5IF 8IJUF -BEZCVH NPWFE MBTU 8IP XJOT BOE JOI



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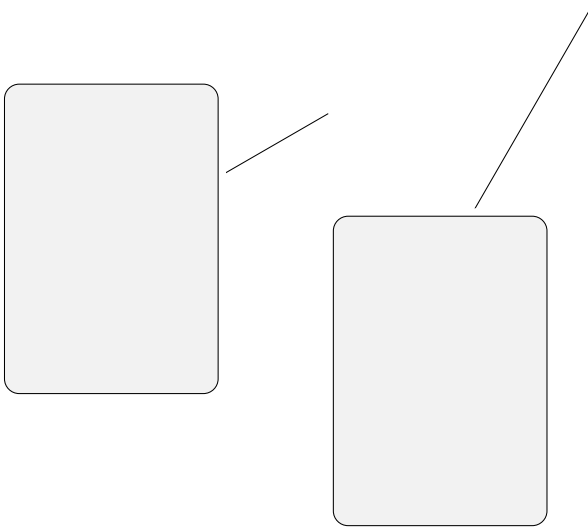
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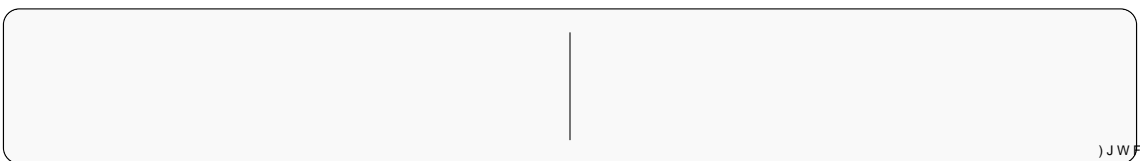
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CZ &VDBMZY

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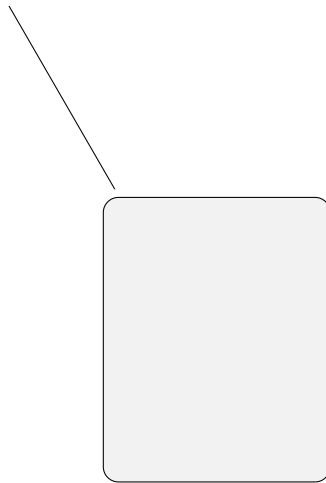
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3 & 4 & 37 &



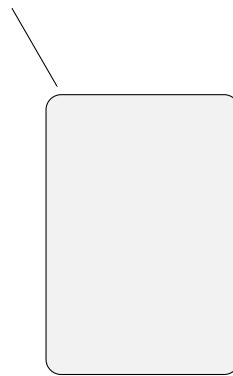
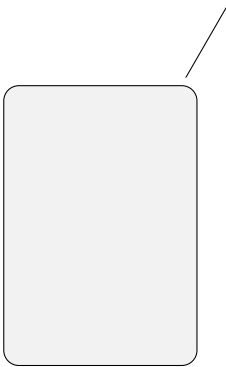
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8IJUF NPWFT OFYU 'JOE UIF XJOOJOH TFRVFODF GPS 8IJUF



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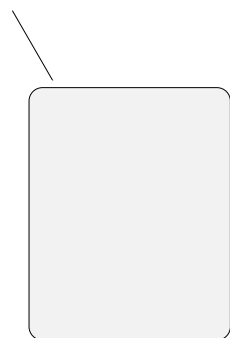
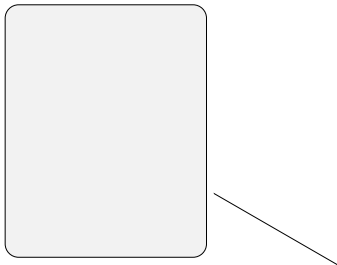




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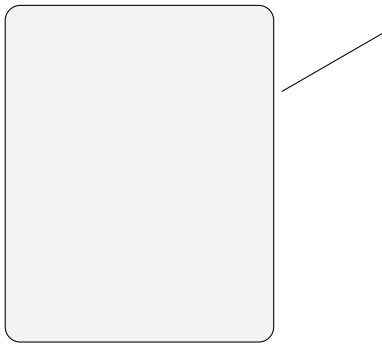
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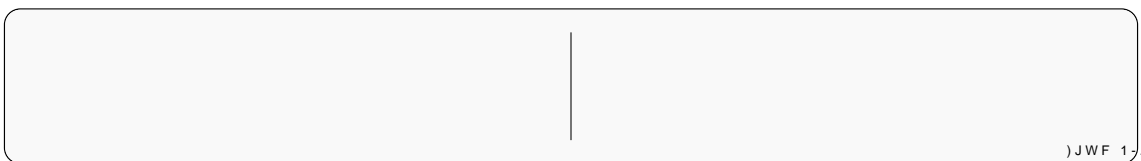
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CZ(BOEBD

8IJUF NPWFT OFYU 8IP XJOT BOE IPX



3 & 4 & 3 7 &



1V[[MF

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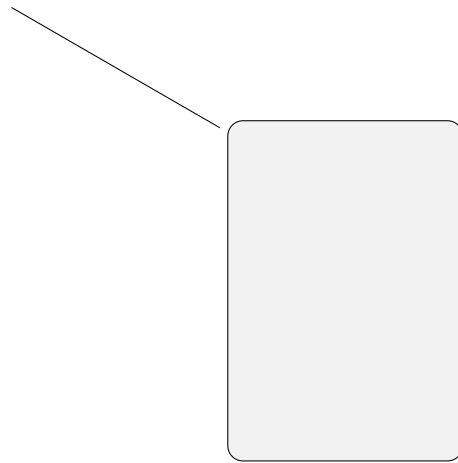
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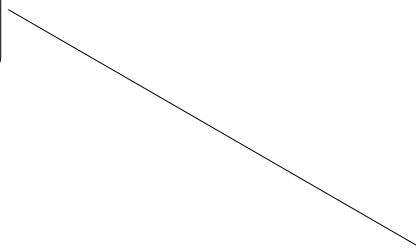
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3 & 4 & 3 7 &

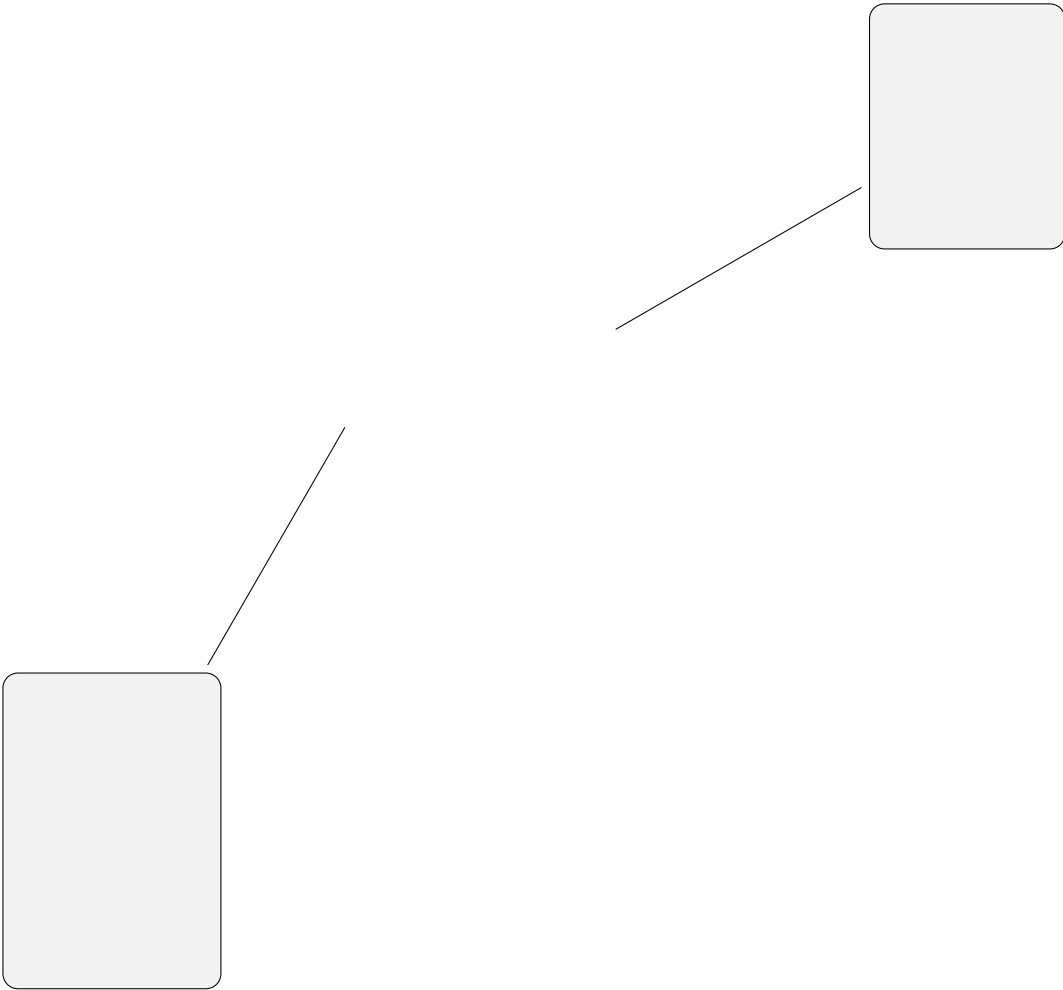


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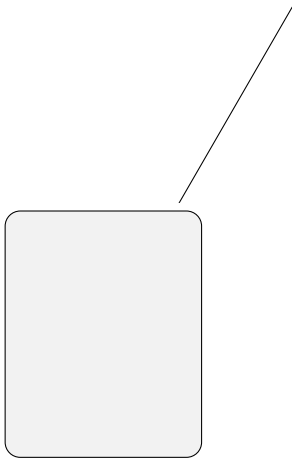
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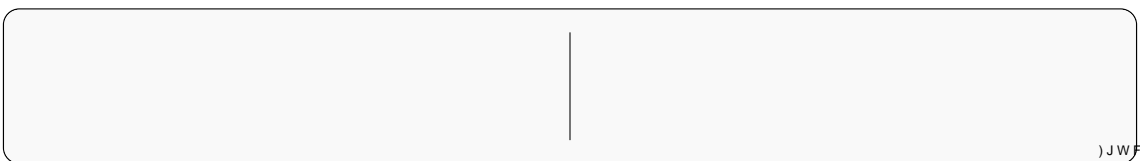
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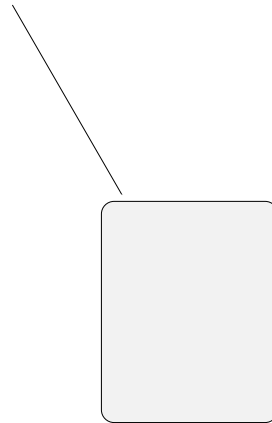
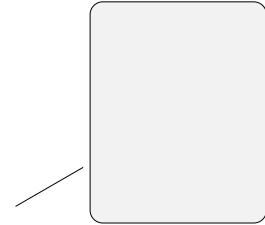
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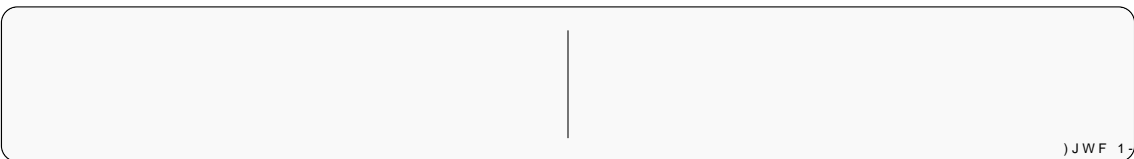
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CZ+POBT,

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3&4&37&





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CZ JNBHF

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3&4&37&



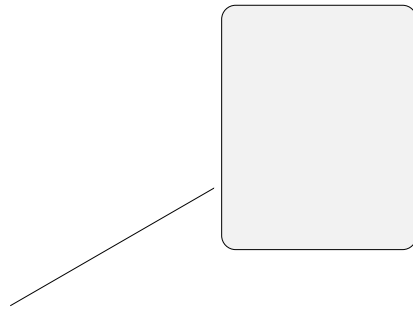
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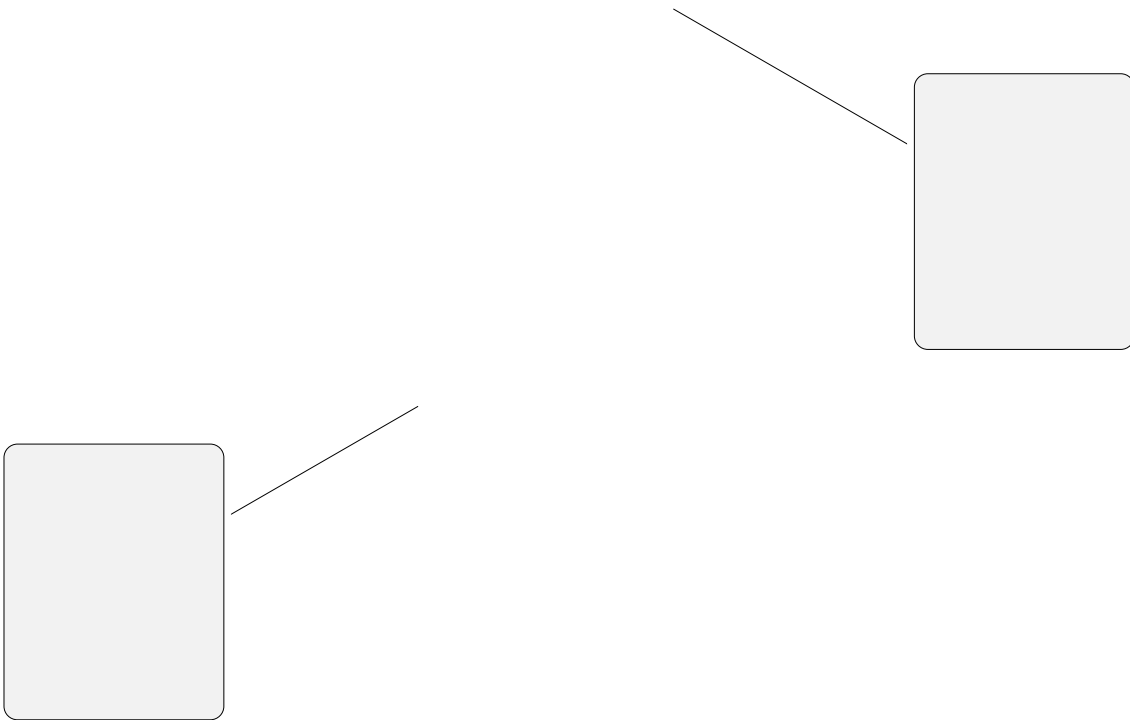
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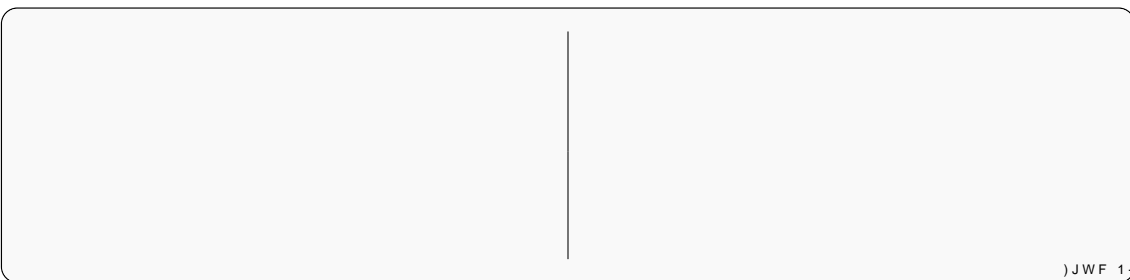
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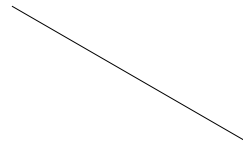
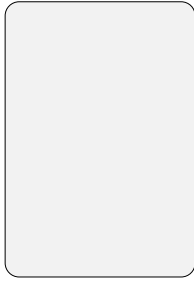
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CZ -PJ[[

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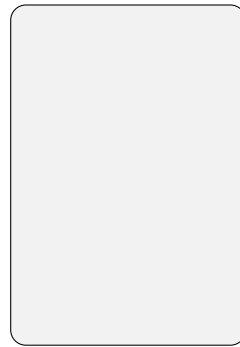
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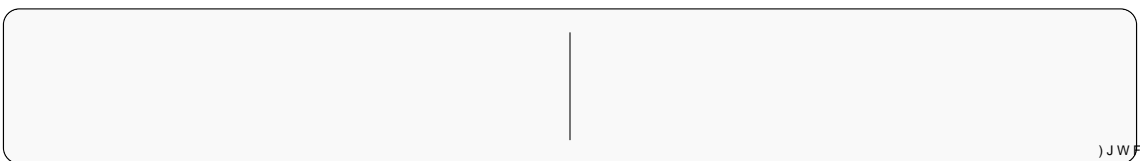
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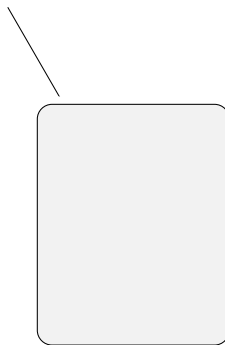
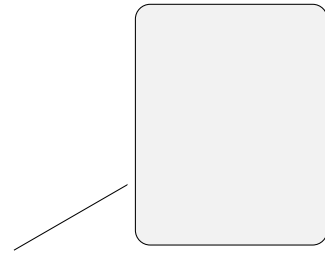
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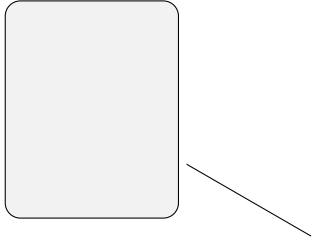
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1V[[MF

CZ JNBHF

#MBDL NPWFT OFYU )PX DBO #MBDL XJO UIF HBNF BOE IPX NBOZ UVSOT



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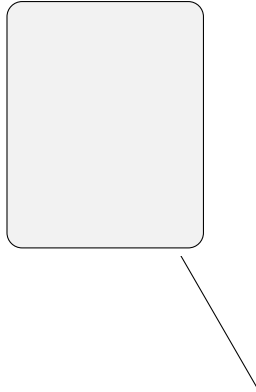




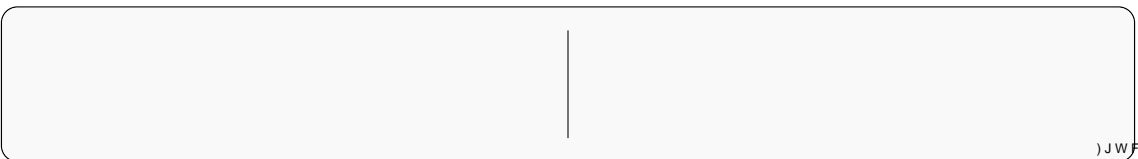
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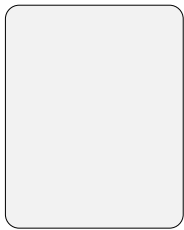
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CZ -PJ[[

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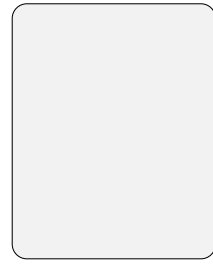
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1V[[MF

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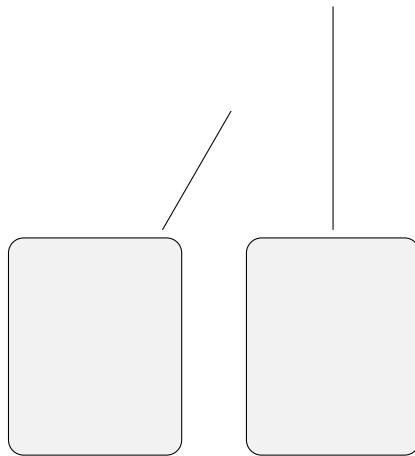
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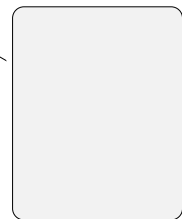
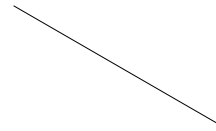
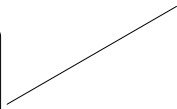
3&4&37&

A large, light gray rounded rectangular box with a thin black border. A vertical line is drawn from the top center of the box down to the bottom center. In the bottom right corner of the box, the text ")JWF 1." is printed.

1V[[MF

CZ(BOEBD

8IJUF NPWFT OFYU )PX NBOZ UVSOT OFFET 8IJUF UP XJO UIF HBNF



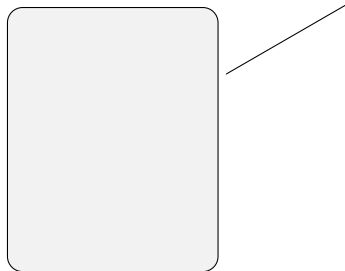
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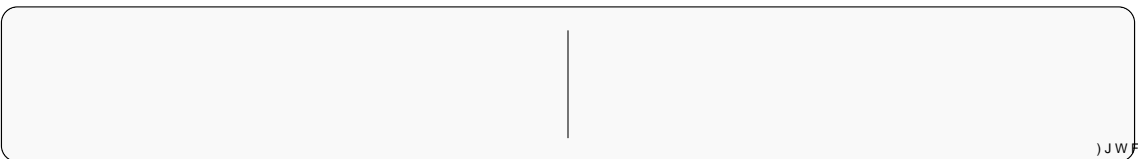
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CZ JNBHF

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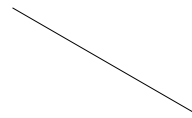
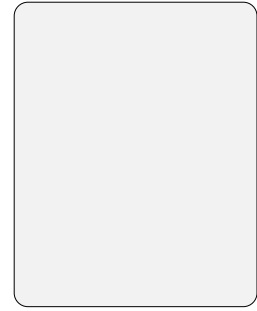
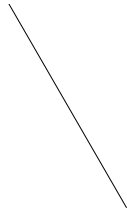
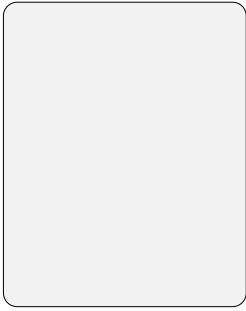
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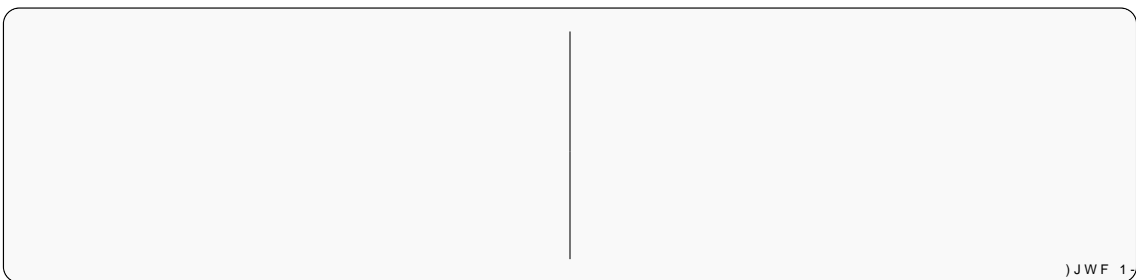
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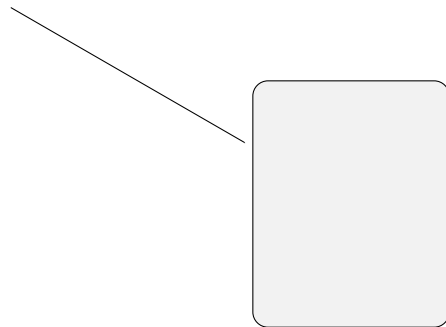
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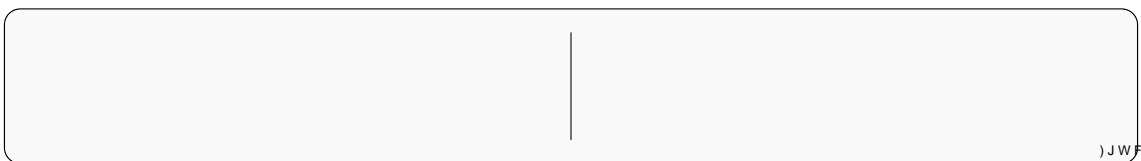
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#MBDL NPWFT OFYU )PX NBOZ UVSOT BSF SFRVJSFE GPS #MBDL UP XJO



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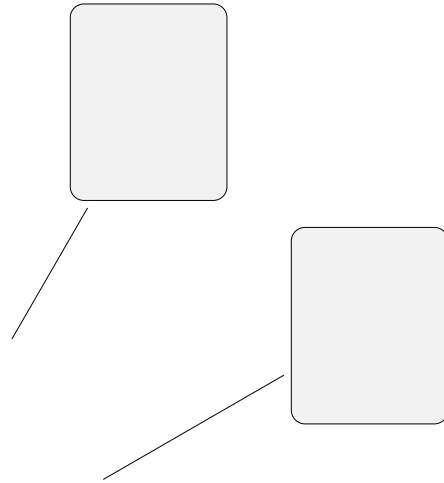




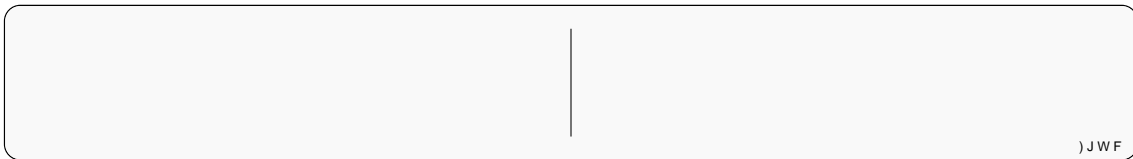
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3&4&37&

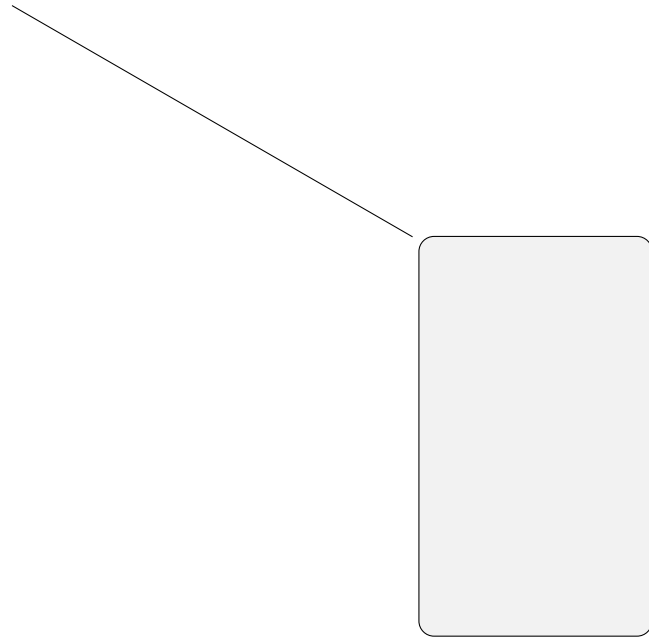


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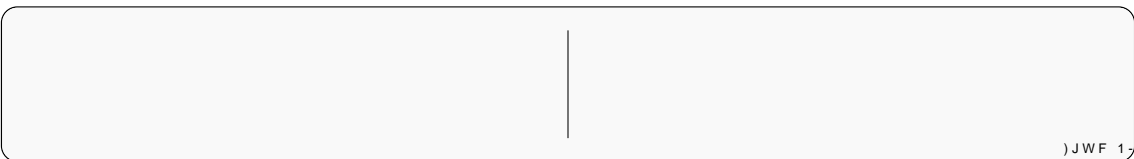
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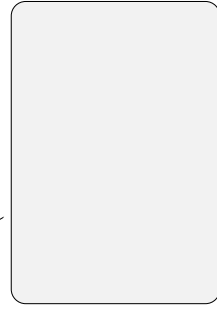
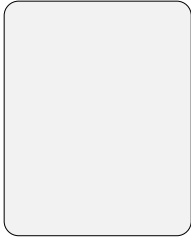
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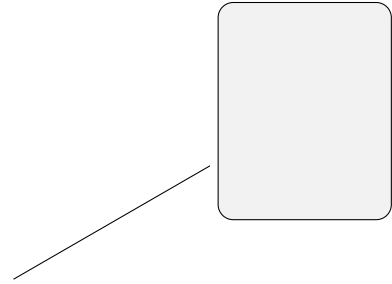
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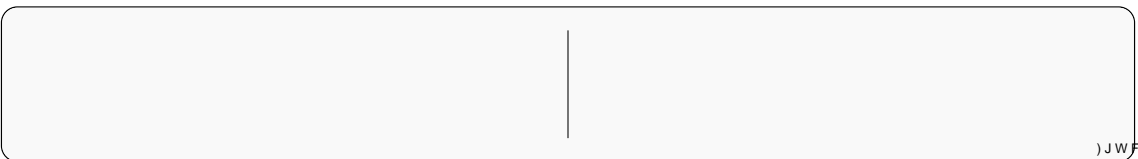
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CZJNBHF

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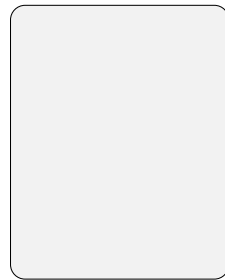
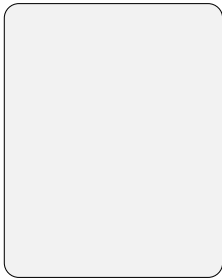
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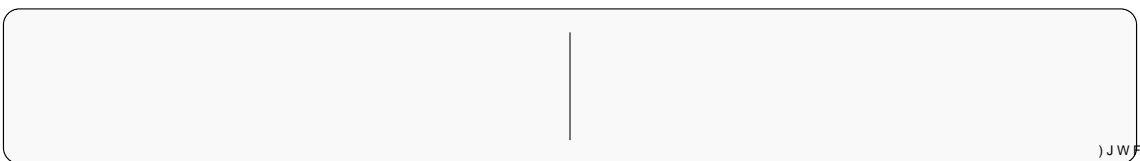
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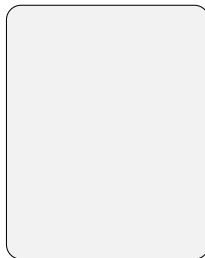
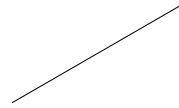
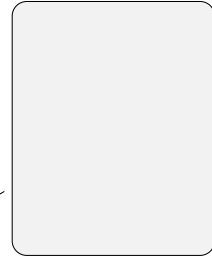
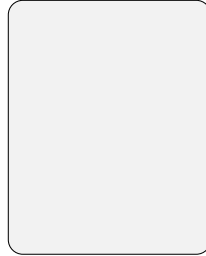
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1V[[MF

CZ(BOEBD

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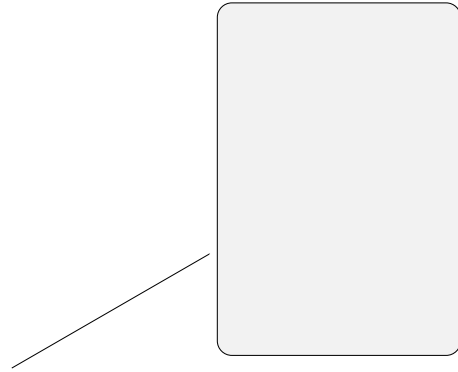
3 & 4 & 3 7 &



1 V[[MF

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3 & 4 & 3 7 &

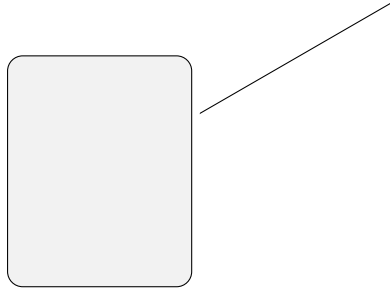


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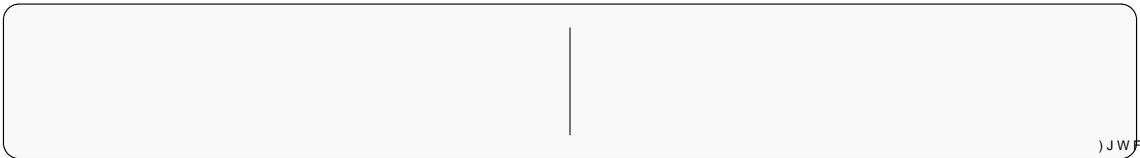
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CZ JNBHF

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3&4&37&



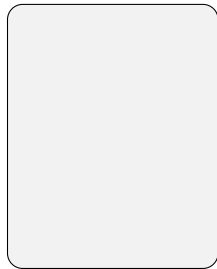
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UIF DPODMVTJPO UIBU #MBDL DBO FGGFDUJWFMZ TUPQ 8IJUF@T BUUBDL 5IJT MFE UP SF  
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1V[[MF

CZ JNBHF

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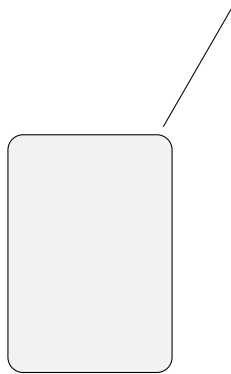
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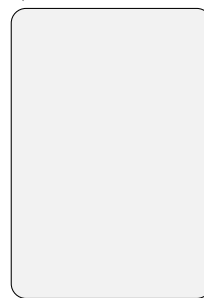
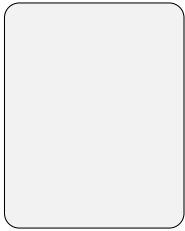
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1V[[MF

CZ -PJ[[

8IJUF NPWFT OFYU 'JOE B TFRVFODF GPS 8IJUF UP XJO JO UVSOT



3 & 4 & 3 7 &

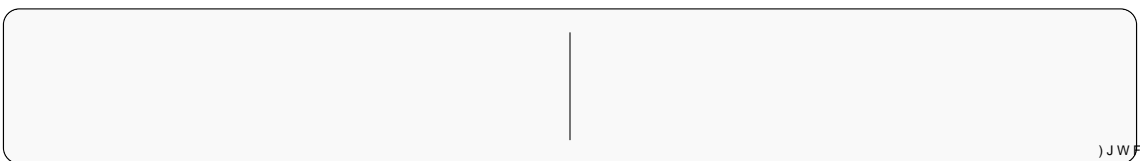


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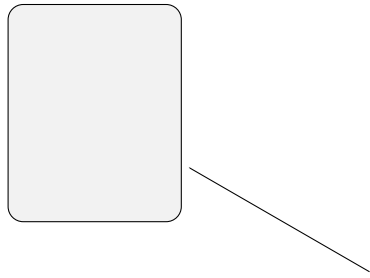
3 & 4 & 3 7 &



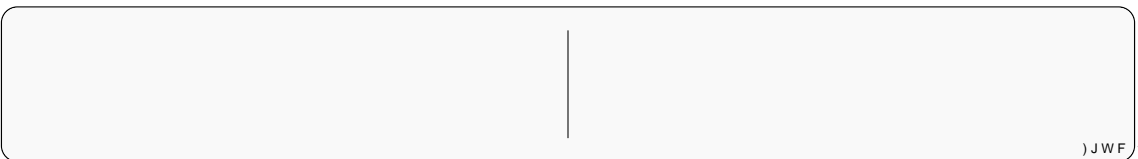
1V[[MF

CZJNBHF

8IJUF NPWFT OFYU 'JOE B TFRVFODF GPS 8IJUF UP XJO JO UVSOT



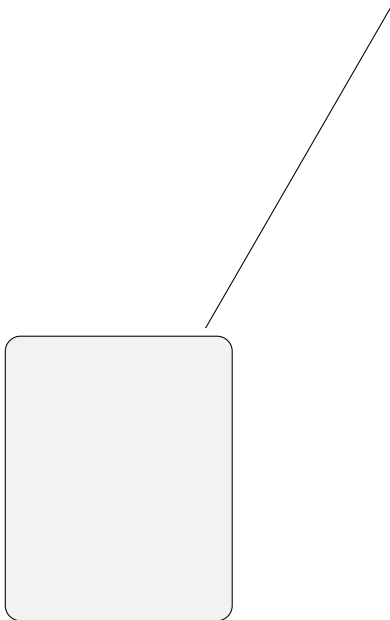
3 & 4 & 3 7 &



1V[[MF

CZ &VDBMZY BOE JNBHF

#MBDL NPWFT OFYU 'JOE B TFRVFODF GPS #MBDL UP XJO JO UVSOT



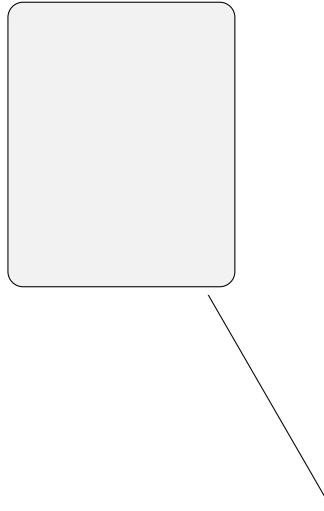
3 & 4 & 3 7 &



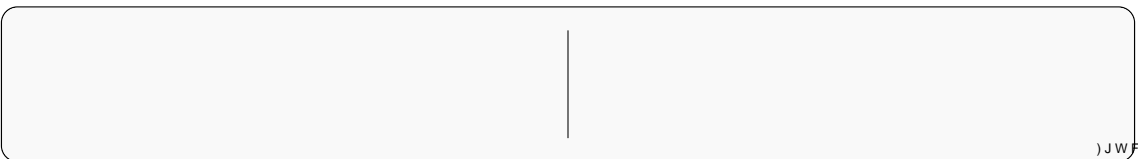
1V[[MF

CZJNBHF

#MBDLNPWFTOFYU )PXDDBO#MBDLXJOBOEJOIPXNBOZUVSOT



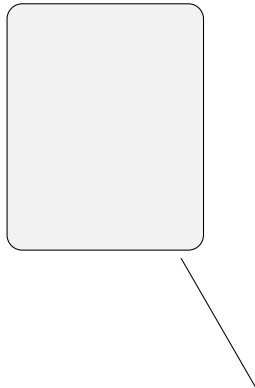
3&4&37&



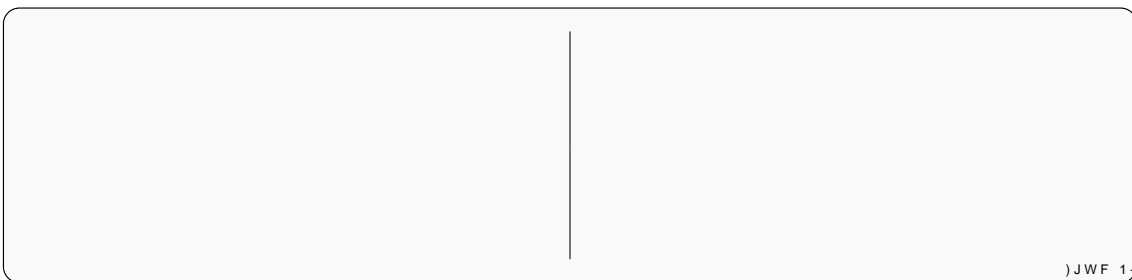
1V[[MF

CZ\$MBVEJV\*PSEBDIF

#MBDLNPWFT OFYU 8IP XJOT BOE JO IPX NBOZ UVSOT



3 & 4 & 3 7 &

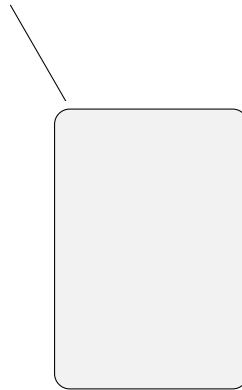




1V[[MF

CZEKJCPVTT

8IJUF NPWFT OFYU 'PS IPX NBOZ UVSOT DBO 8IJUF TVSWJWF



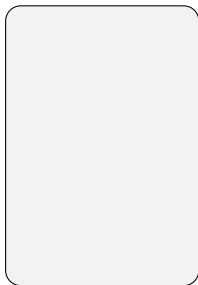
3 & 4 & 3 7 &



1V[[MF

CZ\*IBMBJOFO

#MBDLNPWFT OFYU 'JOEB TFRVFODF GPS #MBDLUP XJO JO UVSOT



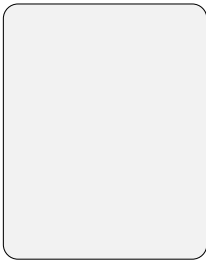
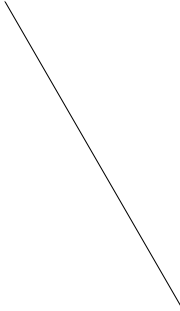
3&4&37&



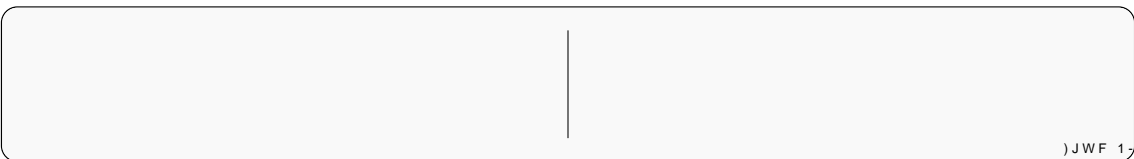
1V[[MF

CZ'SBTDP

8IJUF NPWFT OFYU 8IP XJO BOE JO IPX NBOZ UVSOT



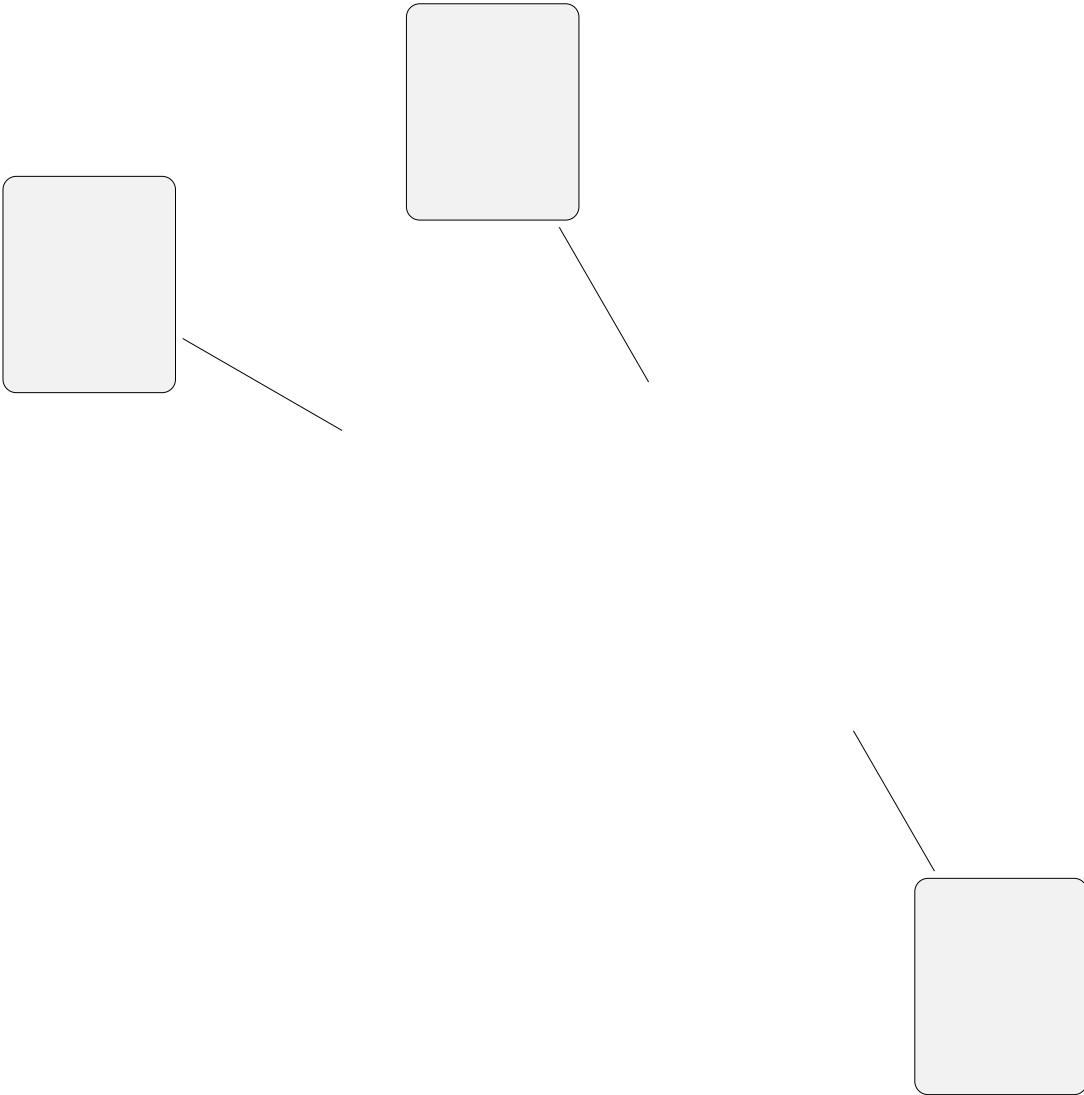
3 & 4 & 3 7 &



1V[[MF

CZ -PJ[[

#MBDL NPWFT OFYU 5IF 8IJUF .PTRVJUP NPWFE MBTU 8IP XJOT BOE IPX



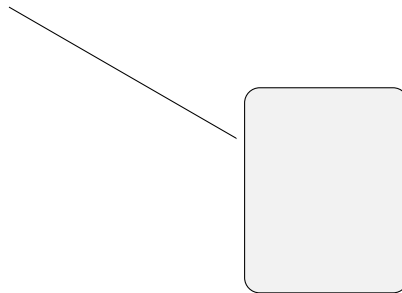
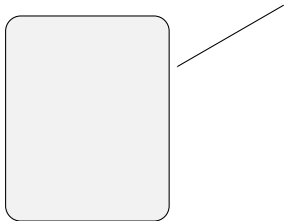
3 & 4 & 37 &



1V[[MF

CZJNBHF

#MBDLNPWFT OFYU 'JOEB TFRVFODF GPS #MBDLUP XJO JO UVSOT



3 & 4 & 3 7 &



1 V[[MF

CZ +POBT,

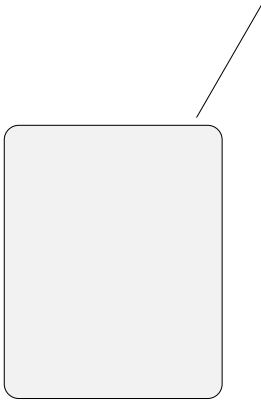
#MBDL NPWFT OFYU 'JOE UIF GPSDFE XJO GPS #MBDL

3 & 4 & 3 7 &

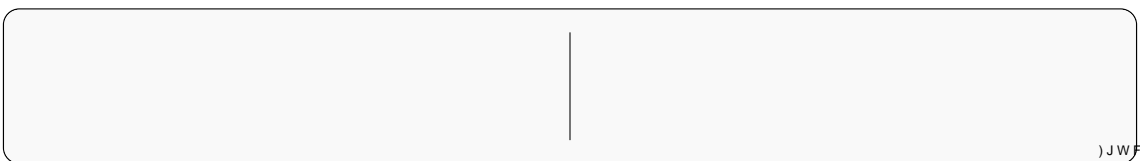
1V[[MF

CZJNBHF

8IJUF NPWFT OFYU 'JOE B TFRVFODF GPS 8IJUF UP XJO JO UVSOT



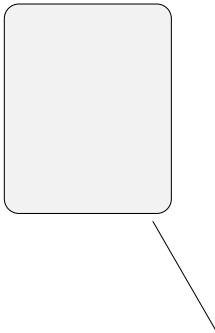
3 & 4 & 3 7 &



1V[[MF

CZ)BQQZ,JXJ +POBT, BOEF4FEBOP

8IJUF NPWFT OFYU 8IP XJOT BOE JO IPX NBOZ UVSOT



3 & 4 & 3 7 &





)JOUT

1V[[MF

'JOE B XBZ PG XFBQPOJ[JOH POF PG ZPVS PQQPOFOU@T EFGFOEJOH Q

1V[[MF

\*G ZPV DBO dMM POF PG UIF LJMM TQPUT PO ZPVS dSTU UVSO 8IJUF XPO  
EFGFOEFST JOUP QMBZ UP QSFWFOU #MBDL@T WJDUPSZ

1V[[MF

.BLF TVSF ZPV ESPQ ZPVS #FFUMFT JO UIF SJHIU PSEFS

1V[[MF

:PV EPO@U IBWF FOPVHI GSFF QJFDFT JO QMBZ UP dMM UIF MBTU LJMM

1V[[MF

5IFSF BSF UXP EJSFDU ESPQT GPS #MBDL 5IF PSEFS JO XIJDI ZPV dMM

1V[[MF

4UBSU XJUI B EJSFDU ESPQ UIF O EFBM XJUI UIF #MBDL 1JMMCVH XBSQ

1V[[MF

0ODF UIF #MBDL 2VFFO JT TUVDL JO QMBDF ZPV IBWF UP NBLF TVSF OP Q

1V[[MF

5IF dSTU UIJOH GPS #MBDL UP EP JT UP DMFBS UIF NPTU JNNFEJBUF UIS

1V[[MF

0OMZ POF NPWF JT OFFEFE GPS #MBDL UP TFDVSF UIF XJO

1V[[MF

#MBDL OFFET UP CSJEHF UIF HBQ CFUXFFO UIF UXP 2VFFOT JO PSEFS U

1V[[MF

\*G #MBDL XBOUT UP BWPJE B ES BX UIFZ XJMM IBWF UP GPSDF 8IJUF U  
TVSSPVOEJOH UIF #MBDL 2VFFO

1V[[MF

%PO@U XPSSZ BCPVU SFMFBTJOH UIF QJO PO UIF #MBDL "OU 0OF "O  
BU UIF TBNF UJNF

1V[[MF

8IFO B EJSFDU ESPQ TUPQT CFJOH BO PQUJPO ZPV NBZ XFMM VTF B QJF  
GSFF B CVH UIBU DBO dMM POF PG UIF SFNBJOJOH LJMM TQPUT

1V[[MF

8IJUF DBO XJO JO UXP UVSOT PODF UIF 1JMMCVH JT SFOEFSFE JSSFMF

1V[[MF

\*U JT TBJE UIBU UIF CFTU EFGFOTF JT B HPPPE PGGFOTF &RVBMMZ CFT  
CF UIF CFTU PGGFOTJWF POFT

1V[[MF

8IJUF XJOT JO UVSOT

1V[[MF

6TF UIF TVCUMFUZ PG UIF 1JMMCVH QPXF S UP XJO

1V[[MF

8JUI OP CVHT MFGU JO SFTFSWF ZPV OFFE UP SFMPDBUF POF PG ZPVS  
BOPUIFS CFGPSF NPWJOH ZPVS #FFUMFT XJU IPVU GSFFJOH BOZ PG 8IJ

1V[[MF

5IF TPMVUJPO SFMJFT PO POF EJSFDU ESPQ

1V[[MF

\$BO ZPV dMM B LJMM TQPU BOE SFMFBTF POF PG ZPVS CVHT XJUIJO UIF

1V[[MF

5IJT QV[[MF DBO CF DPNQMFUFE JO NPWFT " QPTTJCMF dSTU TUFQ N  
UIF PQQPTJUF EJSFDUJPO

1V[[MF

" EJSFDU ESPQ JT UIF GBTUFTU XBZ UP dMM LJMM TQPUT BSPVOE ZPVS

1V[[MF

0VU PG BMM QJFDFT #MBDL NBZ VTF JO UIF dSTU NPWF POMZ POF MFBE

1V[[MF

)PX DBO #MBDL@T NPWF SFTUSJDU 8IJUF@T NPCJMJUZ

1V[[MF

\$BO UIF 8IJUF .PTRVJUP CF GSFFE

/PUF UIBU UIF #MBDL #FFUMF DBO DPWFS UIF 8IJUF -BEZCVH JO UXP U  
-BEZCVH QPXF

1V[[MF

8BUDI PVU GPS 8IJUF "OU TIJGUJOH LJMM TQPUT BOE UVSOJOH UIF HB

1V[[MF

\$BO ZPV GPSN BO BEWBOUBHFPVT SJOH PGGFSJOH BO JOUSJHVJOH PQ

1V[[MF

5IF GBTUFTU TFRVFODF JT UVSOT MPOH BOE VTFT B TRVFF[F

1V[[MF

#MBDL NVTU QSFWFOU BO JNNFEJBUF EFGFBU dSTU CFGPSF TUBSUJOH

1V[[MF

8IJUF DBO MPTF UIF HBNF JO NPWFT JG GPSDFE UP DPNNJU TVJDJEF

1V[[MF

\$PVME 8IJUF@T SFNBJOJOH(SBTTIPQQFST QFSGPSNBIPQ BSPVOE UP

1V[[MF

\*T UIFSF B QPTTJCMJUZ GPS 8IJUF UP DSFBUF B DPOWFOJFOU HBUF

1V[[MF

8IBU JG ZPV EJE@U IBWF UP EP UIF EJSUZ XPSL ZPVSTFMG

1V[[MF

-PPL GPS B DSFBUJWF XBZ UP JNNPCJMJT F B CVH XJU IPVU QJOOJOH PS

1V[[MF

#MBDL XJMM XJO CVU IPX MPOH DBO 8IJUF TVSWJWF

1V[[MF

5IF dSTU NPWF IBT UP FOTVSF UIBU B LJMM TQPU BSPVOE UIF 8IJUF 2V  
PO WJB B EJSFDU ESPQ CZ #MBDL

1V[[MF

#FXBSF PG 8IJUF@T UISFBU UP XJO JO UVSOT BOE LFFQ UIF QSFTTVSF

1V[[MF

4USJWF UP DSFBUF B EPVCMF UISFBU VTJOH UIF #MBDL@T 1JMMCVH BC

1V[[MF

#MBDL@T dSTU NPWF JT GPSDFE \$BO BOZ QJFDF CF XBSQFE CZ UIF 1J  
TJUJPO

1V[[MF

5IF #MBDL #FFUMF OFFET UP DIBOHF LJMM TQPUT

1V[[MF

.JNJDLJOH PUIFST JT LFZ UP TPMWF UIJT QV[[MF

1V[[MF

\*U@T B XJO GPS #MBDL JO UVSOT OPU NPSF

1V[[MF

)PX UP QSFWFOU UIF #MBDL .PTRVJUP GSPN DMJNCJOH EPXO BOE HBJC

1V[[MF

" (SBTTIPQQFS OFFET UP NBLF B IPQ BSPVOE GPS UIF 8IJUF XJO #VU IP)  
#MBDL TUPQ UIJT

1V[[MF

)PX DBO B 8IJUF "OU dMM UIF LJMM TQPU BU C2

1V[[MF

5IJT QV[[MF JT BCPVU QJFDFT XIPTF NPWFT DBOOPU CF QSFWFOUFE

1V[[MF

"T 8IJUF VTF ZPVS MBTU CVH JO SFTFSWF DSFBUIJWFMZ UP PCUBJO DM

1V[[MF

-FU UIF (SBTTIPQQFST EP UIF USJDL PS VTF B #FFUMF UP dOJTI 8IJUF P

1V[[MF

&OTVSF #MBDL@T dSTU NPWF JT GPSDFE 0UIFSXJTF UIF #MBDL #FFUM  
DBO@U XJO JO NPWFT



1V[[MF

%PO@UCFBGSBJEUPMFUZPVS PQQPOFOUWBDBUF B GFX LJMM TQPUT  
XJUI EJGGFSFOU CVHT PG UIF TBNF DPMPVS

1V[[MF

#MBDL DBO XJO JO UVSOT XJUI 8IJUF NBLJOH UIF MBTU NPWF

1V[[MF

\*G ZPV QVU ZPVS PQQPOFOU JOB TIVUPVU ZPV BSF CFJOH UPP HSFFEZ

1V[[MF

#FXBSF PG UIF UISFBU GPS 8IJUF UP MPTF SJHIU BGUFS UIF dSTU NPWF

1V[[MF

5IF #MBDL -BEZCVH QMBZT B DSJUJDBM SPMF IFSF

1V[[MF

5IF QJOEFE (SBTTIPQQFS DBO CF SFMFBTFE JG B QPDLFU JT GPSNFE BS

1V[[MF

#MBDL TUBSUT UIF TFRVFODF CZ BUUBDLJOH CVU 8IJUF NJHIU dHIU C  
CSJOH 8IJUF@T DPVOUFS BUUBDL UP B IPME WJDUPSZ JT HVBSBOUFF

1V[[MF

4USJWF UP GPSN B VTFGVM SJOH

1V[[MF

\*T UIFSF B XBZ UP GSFF UIF #MBDL -BEZCVH

1V[[MF

8JUI #MBDL CFJOH POMZ UISFF UVSOT BXBZ GSPN WJDUPSZ UIF BQQS  
2VFFO JT UPP TMPX \*U JT NPSF FGdDJFOU UP GPSDF #MBDL JOUP EFGF

1V[[MF

8IJUF XJOT JO UVSOT

# 4PMVUJPOT

1V[[MF

5IF TFRVFODF JT

Z3 Z\$ ? E0 Z3?  
 Z\* ?Z\$ E\$ ?Z\*  
 Z3 E0 Z3 E  
 Z0 E4

#Z TUBSUJOH UIF BUUBDL XJUI UIF 8IJUF 1JMMCVH 8IJUF MBZT UIF G  
 UISFBU 00 UVSO #MBDL IBT UP DIPPTF CFUXFFO TFMG QJOOJOH UIF  
 QJOH 8IJUF (SBTTIPQQFS 00F XBZ PS UIF PUIFS 8IJUF@T BUUBDL DB

1V[[MF

5IF TFRVFODF JT

E3 E% Z4?  
 Z\$ E\$ E\* E\$  
 Z E\* ?Z4

\*G 8IJUF VTFT 8IJUF "OU UP QJO #MBDL (SBTTIPQQFS #MBDL "OU  
 NBJOJOH LJMM TQPU

1V[[MF

5IF TFRVFODF JT

E% Z4  
 Z\* E% Z4  
 Z E0 ?Z4

"OZ PUIFS PSEFS PG ESPQQJOH UIF #FFUMFT SFTVMUT FJUIFS JO B MP  
 8IJUF B DIBODF UP DPWFS POF PG UIF SFNBJOJOH #MBDL #FFUMFT PS U

1V[[MF

8IJUF XJOT JO UVSOT

Z\* Z6 E\$ Z\*  
 Z\* Z\$ E\$ Z\*  
 Z% ?Z6 E\$ E% ?  
 Z% Z6 E  
 Z% E4

5IF PSEFS JO XIJDI 8IJUF JOUSPEVDFT UIF OFX CVHT NBZ CF DIBOHFE  
 #FFUMF FOUFST UIF HBNF BEKBDFOU UP 8IJUF 4QJEFS 5IBU TQBXC  
 #FFUMF UP SFBDI UIF LJMM TQPU XJU IPVU CFJOH UISFBUFOFE CZ #MB

1V[[MF

5IF TFRVFODF JT

E\$ E\*  
 Z\$ E\$ E\* E\$  
 Z E% Z4

8JUI UIFJS dSTU NPWF #MBDL UISFBUFOT EJSFDU ESPQT JOUP UXPEJG  
 NPWF POF PG UIFJS "OUT UP QSFWFOU POF PS UIF PUIFS CVU OPU CPU

1V[[MF

5IF TFRVFODF JT

Z Z\$ E3 Z0 E3  
 Z\$ E3 E  
 Z% E4

\*G 8IJUF DPWFST UIF #MBDL 1JMMCVH PO UIF dSTU NPWF #MBDL DBO T  
 GPSDF 8IJUF UP EFGFOE

1V[[MF

5IF TFRVFODF JT

Z\$ E4 E  
Z% E\* E  
Z0 E4 E  
Z% E4

"O BMUFSOBUJWF XBZ UP B XJO GPS 8IJUF JT UP GPSDF B TIVUPVU CZ Q  
XJUI 8IJUF "OU 5IBU TFRVFODF IPXWFS SFRVJSFT NPSF UVSOT

1V[[MF

#MBDL XJOT JO UVSOT

E3 Z0 E3  
Z% E\$ E/ E\*  
Z\$ ?E/ E\* ?E\*  
Z\* E0? E\* E\* ?  
Z E% Z4?

5IF PSEFS BOE QPTJUJPO JO XIJDI UIF #MBDL -BEZCVH BOE #MBDL (SBT  
JOUP UIF HBNF DBO CF EJGGFSFOU GSPN UIF POF QSFTFOUFE JO UIJT T  
TUBZT UIF TBNF #Z JOUSPEVDJOH UIFTF UXP QJFDFT 8IJUF EPFT OPU  
UP QJO CPUI UISFBUT BU UIF TBNF UJNF BOE #MBDL DBO TVDDFTTGVM  
UIF 8IJUF 2VFFO

1V[[MF

#MBDL XJOT CZ QFSGPSNJOH B TIVUPVU PO 8IJUF 0ODF 8IJUF JT GPSDF  
SPVOE UIF 8IJUF 2VFFO FGGPSUMFTTMZ )FSF XF TIPX KVTU POF PG NB

E/ Z\$  
SDVV E% E0  
SDVV E% Z3  
SDVV E\$ ?E0  
SDVV E% Z4  
SDVV E6 E\$  
SDVV E\$ Z3  
Z E% Z4

1V[[MF

5IF TFRVFODF JT

	E*	E4
Z	E6	E*
Z	E6	Z4?

" #MBDL 4QJEFS TQBXOFE BEKBDFOU UP UIF #MBDL 2VFFO DBOOPU SF  
 TQPU XJU IPVU GSFFJOH POF PG 8IJUF@T CVHT #Z TQBXOJOH UIF dOBM  
 #MBDL 2VFFO dSTU #MBDL DSFBUFT B EPPS UIBU DBO CF VTFE CZ #MBD  
 HBQ dOJTIJOH JUT NPWF JO UIF MBTU LJMM TQPU

1V[[MF

5IF TFRVFODF JT

	E\$	E6
Z6	Z*	E\$ Z6
Z	E%	Z4

8IFO #MBDL "OU FOUFST UIF IJWF 8IJUF JT GPSDFE UP TQBXO 8IJUF  
 TQBXO QPJOU MFGU OPSUI XFTU PG 8IJUF (SBTTIPQQFS #Z QJOOJ  
 #MBDL DSFBUFT B #VH[XBOH QPTJUJPO 8IJUF IBT UP NPWF POF PG UIF  
 UIF #MBDL 2VFFO BT UIFZ BSF UIF POMZ UXP NPCJMF QJFDFT BWBJMB  
 UIF HBNF FJUIFS XJUI #MBDL #FFUMF PS UIF #MBDL 2VFFO

1V[[MF

8IJUF XJOT JO UVSOT 4PNF WBSJBUJPOT FYJTU CVU UIF LFZ JT UIBU  
 UXP BUUBDLFST BU PODF 0OF XJOOJOH TFRVFODF JT

Z\$	E4	E%	Z\$
Z*	Z3	E\$	?Z*
Z/	Z6	?	E
Z/	E4		

\*G #MBDL "OU UIF POMZ BWBJMBCMF EFGFOEFS QJOT UIF 8IJUF -B  
 (SBTTIPQQFS UIBU IBT KVTU CFFO SFMFBTFE dMMT UIF SFNBJOJOH LJ

1V[[MF

5IF TFRVFODF JT

	E\$	Z*
Z\$	E%	E6 E*
Z	E*	?E\$
Z	E%	Z4

5IF LFZ JT UP GSFF #MBDL (SBTTIPQQFS FOBCMJOH JU UP BUUBDL  
DIBOHJOH LJMM TQPUT XJUI #MBDL "OU BOE GPSDJOH 8IJUF UP CMPDL

1V[[MF

8IJUF XJOT JO UVSOT 5IF TFRVFODF JT

Z\$	E4	E
Z%	E4	

\*G #MBDL XBSQT UIF 2VFFO TPVUI XFTU BGUFS 8IJUF@T dSTU NPWF 8  
MBTU LJMM TQPU VTJOH 8IJUF "OU

\*G 8IJUF BUUBDLT VTJOH 8IJUF "OU JOTUFBE 8IJUF #FFUMF JT MF  
8IJUF@T POMZ UISFBU UP XJO JT CZ XBSQJOH UIF 8IJUF 2VFFO 5IJT U  
CZ #MBDL "OU PS

1V[[MF

5IF TFRVFODF JT

Z\$	Z*	E\$	Z\$
Z3	E4	?Z3	E
Z/	E4		

'PS UIFJS dSTU NPWF 8IJUF DBO BMTP NPWF 8IJUF "OU FBTU PG 8IJU  
OPU DIBOHF UIF SFTU PG UIF TFRVFODF \*G PO UVSO #MBDL "OU QJ  
8IJUF DBO VTF POF PG UIFJS "OUT UP dMM UIF MBTU LJMM TQPU JOTUFBE

1V[[MF

5IF XJOOJOH TFRVFODF JT

Z\$ Z/? E  
Z/ E%

\*G #MBDL EPFT OPU NPWF UIF #MBDL .PTRVJUP PONPWF 8IJUF DBO XBS  
JO GPS UIF XJO

1V[[MF

5IF XJOOJOH TFRVFODF JT

Z/ Z0 E0 ?Z3  
Z Z% ? E0 Z0 E0  
Z3 E0 Z3 E  
Z% E4

" EJGGFSFOU PQUJPO GPS 8IJUF@T dSTU NPWF JT VTJOH UIF .PTRVJU  
8IJUF "OU TPVUI XFTU PG #MBDL "OU \*O BOZ DBTF UIF SFTU PG UIF  
JO UIF TBNF XBZ

00 UVSO 8IJUF QFSGPSNT B EJSFDU ESPQ \*G #MBDL USJFT UP QSFV  
UIF GSFFE 8IJUF (SBTTIPQQFS KVNQT JO BOE 8IJUF XJOT JO UVSOT

1V[[MF

5IF TFRVFODF JT

E\* E%  
Z\$ E6 E\* Z\$  
Z E\* E6  
Z E% E\*

5IFSF JT B QPTTJCMF WBSJBUJPO UP UIF TFRVFODF \*G PO UVSO 8IJU  
#MBDL NBZ ESPQ #MBDL #FFUMF FBTU PG #MBDL 4QJEFS BT 8IJUF (SB  
DBO@U FTDBQF TJODF UIF QSF TXBNQ PG UIF (SBTTIPQQFS JT XPVME C



1V[[MF

5IF TFRVFODF JT

Z%	E4	E\$	?Z*
Z\$	Z*	E	
Z*	Z6	E	
Z%	E%		

00 UVSO #MBDL IBT UP EFDJEF IPX UP TUPQ 8IJUF GSPN dMMJOH UI  
 PG 8IJUF 4QJEFS CVU 8IJUF IBT B EPVCMF UISFBU PO UIBU TQPU \*G  
 EJSFDU ESPQ CZ NPWJOH BO BOU DMPTF UP JU 8IJUF (SBTTIPQQFS JT  
 JO UIF TFRVFODF BCPWF \*G #MBDL QJOOF E UIF (SBTTIPQQFS JOTUFB  
 MBTU QJFDF GSPN UIF SFTFSWF EJSFDUMZ JOUP UIF LJMM TQPU

1V[[MF

5IF TFRVFODF JT

Z%	E\$	E*	
Z/	E\$	E%	Z0
Z\$	E4?		

"MUFSOBUJWFMZ #MBDL DPVME QJO 8IJUF "OU PO UIFJS TFDPOE NPV  
 UIBU DBTF UIF 8IJUF .PTRVJUP dMMT UIF SFNBJOJOH LJMM TQPU

1V[[MF

5IF GPMMPXJOH UVSOT TFRVFODF SFTPMWFT UIF QV[[MF

E\* E\* ?  
 Z6 ?Z4  
 E\* ?E4  
 E\* Z6  
 E\* E\*  
 Z6 Z4  
 E\* ?E4  
 Z6 E\* ?  
 E\* E\*  
 E\* Z4  
 Z6 Z6  
 Z6 E\*

5IF TPMVUJPO SFMJFT PONFUIPEJDBMMZ VOXSBQQJOH UIF QJFDFT TVS  
 5IF (SBTTIPQQFST OFFE UP KVNQ JO PSEFS UP BMMPX UIF BEKBDFOU  
 QSFWJPTVMZ NFOUJPOFE (SBTTIPQQFST KVNQ CBDL BOE UIFO BXBZ G  
 XJUIPVU MPDLJOH PUIFS QJFDFT JO QMBDF 5IJT QBUUFSO SFQFBUT V

1V[[MF

#MBDL XJOT JO UVSOT 5P EP TP UIF dSTU NPWF NVTU CF NPWJOH #M  
 8IJUF 2VFFO %FQFOEJOH PO 8IJUF@T SFTQPOTF UIFSF BSF TFWFSBM  
 XJO JO UVSOT )FSF XF TIPX POF JO XIJDI 8IJUF BUUFNQUT UP TUPQ #M  
 EJSFDU ESPQT BSPVOE UIF 8IJUF 2VFFO

E% Z4  
 Z\$ E6 E% Z\$  
 Z6 E\$ ? E\* Z4  
 Z\* Z% E\$ ?Z4  
 Z E% Z4

1V[[MF

#MBDL XJOT JO UVSOT 5IF dSTU NPWF NVTU CF EPOF XJUI UIF #MBDL "C  
TFRVFODFT GPS #MBDL UP XJO JO UVSOT EFQFOEJOH PO XIFSF #MBDL  
EFGFOET

E\$ Z4  
Z\$ E\$ E6 Z4  
Z\$ ?Z\* E\* E6  
Z\$ E\* E6 ?E\$  
Z6 E% E6 Z4

.PWJOH #MBDL "OU dSTU JT UIF LFZ UP TFDVSF UIF WJDUPSZ \*G #MBD  
DMJNCJOH BUPQ UIF IJWF XJUI #MBDL #FFUMF 8IJUF XPVME SFTQPO  
DMJNCJOH POUP #MBDL "OU EFOZJOH #MBDL B WJDUPSZ JO UVSOT  
\*G #MBDL #FFUMF DMJNCT POUP #MBDL #FFUMF 8IJUF DBO TIJGU 8  
TQPU XFTU PG UIF #MBDL 2VFFO "GUFU UIBU 8IJUF JT BMSFBEZ BIFBE J  
#MBDL SFTQPOET

1V[[MF

#MBDL XJOT JO UVSOT 5IF UXP QPTTJCMF TFRVFODFT EFQFOE PO #  
RVFODF SFMJFT PONPWJOH UIF #MBDL 1JMMCVH UP CFDPNF B QSPYJN  
8IJUF "OU

E3 ?Z\$  
Z6 Z\$ E3 Z\$ E3  
Z% E4 E% Z%  
Z\$ E0? E\$ ?E\$  
Z E% Z4

4FRVFODF BMTPTVFT UIF #MBDL 1JMMCVH BT B QSPYJNJUZ 1JMMCVH  
TUBODF JUCMPDLT UIF BUUBDL PG 8IJUF 4QJEFS

E3 ?E%  
Z\$ Z% ? E0 Z3  
Z3 E% ? E0 Z3  
Z% Z3 E6 ?E\$  
Z E% ?E/

/PUF UIBU CSFBLJOH UIF SJOH CZ NPWJOH BXBZ UIF #MBDL -BEZCVH JT  
UIF #MBDL .PTRVJUP NPWFT UP B LJMM TQPU BOE GPSDFT UIF 8IJUF 1JM

1V[[MF

8IJUF XJOT JO UVSOT 5IFSF BSF UXP QPTTJCMF XJOOJOH TFRVFODFT  
4FRVFODF

Z3 Z6 E\* E\* Z6  
Z0 Z3 Z0? E  
Z0 E4

\*G PO UVSO #MBDL dMMT UIF LJMM TQPU TPVUI XFTU PG UIF 8IJUF 2V  
IPQJOH GPS B ESBX 8IJUF UBLFT UIF LJMM TIPU XJUI UIF 8IJUF -BEZCV  
4FRVFODF

Z3 Z6 ?Z3 E/ E%  
Z0 E\* ?Z0 E  
Z/ ?Z4

"T JO TFRVFODF BCPWF #MBDL NBZ UISFBUFO XJUI B ESBX PO UIF T  
JOH #MBDL #FFUMF UP UIF LJMM TQPU XFTU PG UIF 8IJUF 2VFFO \*G #  
.PTRVJUP PS UIF 8IJUF -BEZCVH DBO UBLF UIF LJMM TIPU

1V[[MF

5IF TFRVFODF JT

E% Z\$  
Z% E% E\* E%  
Z% E\* E% E\$  
Z E% Z4

\*G #MBDL (SBTTIPQQFS KVNQT JO CFGPSF 8IJUF "OU JT DPWFSFE 8IJ  
UP UIF LJMM TQPU OPSUI FBTU PG 8IJUF #FFUMF 0ODF #MBDL (SBTTIP  
(SBTTIPQQFS DBO KVNQ JO UP BUUBDL BOE 8IJUF XJMM CF BIFBE JO U

1V[[MF

5IF TFRVFODF JT

Z\$ Z\* E\* E4  
 Z% E% E6 E% ?  
 Z3 E4 Z3 E% Z%  
 Z\* E4

#MBDL JOTUFBE EFDJEFT UP QJO 8IJUF (SBTTIPQQFS XJUI #MBDL "OU  
 TQPU XJMM CF PDDVQJFE CZ 8IJUF #FFUMF

1V[[MF

5IF GBTUFTU TFRVFODF GPS #MBDL UP XJO JT CZ GPSDJOH B TRVFF[F

E6 Z6 ?  
 Z\* Z\* E% Z%  
 Z\* E\* E6 ?Z\*  
 Z\* Z\* E\$ Z4  
 Z E% Z4

5IF PSJHJOBM JEFB CFIJOE UIF QV[[MF XBT UP FYDIBOHF UIF QPTJUJPC  
 EFST CVU UIJT MFBET UP B MPOHFS UVSOWJDUPSZ

1V[[MF

#MBDL XJOT JO UVSOT

E\$ Z%  
 Z6 Z% E6 ?Z4  
 Z6 E\$ ? E% Z4  
 Z6 E\$ ? E\* E%  
 Z E% Z4

\*U XPVME CF QPTTJCMF GPS 8IJUF UP NPWF 8IJUF #FFUMF TPVUI FBTU  
 dSTU JO BO BUUFNQU UP SFMFBTF JU \*O UIBU DBTF UIPVHI #MBDL DB  
 BOE JT TUJMM BCMF UP dMM UIF SFNBJOJOH LJMM TQPUT XJUI UIFJS G

1V[[MF

5IF XPSTU NPWF GPS 8IJUF JT

Z3 E6

5IJT BMMPXT UIF #MBDL 1JMMCVH UP XBSQ UIF 8IJUF 2VFFO JOUP UIF QI  
/PX UIF POMZ MFHBM NPWF GPS 8IJUF JT UP MPTF UIF HBNF CZ XBSQJO  
#MBDL 4QJEFS JOUP UIF MBTU LJMM TQPU BEKBDFOU UP IJT PXO 2VFF

1V[[MF

8IJUF XJOT JO UVSOT 5IFSFBSFBU MFBTU UXPEJGGFSFOU TFRVFODF  
SFTQPOET UP 8IJUF@T dSTU NPWF

4FRVFODF

Z\* Z3 E% E3  
Z\$ ?E4 E  
Z\* E4

4JODF #MBDL #FFUMF DPWFSFE UIF #MBDL 1JMMCVH JO UIF #MBDL@T  
TFRVFODF GPS 8IJUF UP XJO JT UP KVNQ XJUI 8IJUF (SBTTIPQQFS UP U  
.PTRVJUP #MBDL DBOOPU TUPQ CPUI UIF 8IJUF .PTRVJUP BOE 8IJUF  
PG UIFN XJMM dMM UIF LJMM TQPU

4FRVFODF

Z\* Z3 E\$ Z\$  
Z/ ?E4 E  
Z0 Z6 E4

1V[[MF

8IJUF XJOT JO UVSOT

Z0 E4 E3 Z\* E3  
Z\$ Z6 E  
Z0 E4

5IF dSTU NPWF DSFBUTB #FFUMF HBUF UFDIOJDBMMZB .PTRVJUP HBU  
1JMMCVH GSPN XBSQJOH UIF 8IJUF -BEZCVH BXBZ

1V[[MF

8IJUF XJOT JO UVSOT CZ GPSDJOH #MBDL UP TQBXO B OFX QJFDF JO PC  
LJMM TQPUT

Z0 E3? SDVV  
Z% E3 E ?E4  
Z% E4

1V[[MF

5IFSF BSF UXP QPTTJCMF TFRVFODFT EFQFOEJOH PO 8IJUF@T SFTQPO  
\*G 8IJUF 4QJEFS EPFT OPU NPWF UP GSFF 8IJUF "OU UIF TFRVFODF J

Z E\* Z\$  
Z E\* ?Z6  
Z E\* Z4

5IF dSTU NPWF DSFBUFT B QPDLFU UIBU JNNPCJMJTFT 8IJUF 4QJEFS  
(SBTTIPQQFS KVNQJOH PWFS JO UIF GPMMPXJOH NPWF 3FNFNCFB B  
OPU FOE PO UIF TBNF TQPU JU TUBSUFE 5IVT NPWJOH 8IJUF 4QJEFS  
NPWF 8IJUF EPFT OPU IBWF BOZ EFGFOEFST BWBJMBCMF UP QSFWFOU  
dMMJOH UIF MBTU LJMM TQPU

\*G 8IJUF 4QJEFS NPWFT UIF TFRVFODF JT

Z6 Z\$ E\* E4  
Z E\* Z4

1V[[MF

#MBDL XJOT JO UVSOT \*O UIJT HBNF 8IJUF OFJUIFS IBT UIF UFNQP  
EFGFOEFST UP TUPQ #MBDL@T BUUBDL 5IFSF JT BMXBZT B TUSPOH NF  
UIF SFNBJOJOH LJMM TQPUT JO UIF UXP TVCTFRVFOU UVSOT 5IF MPOH

Z% E0 E\$ ?E\$  
Z\$ E\$ E\* E\$  
Z\$ Z6 E\* E\$  
Z E% Z4

1V[[MF

#MBDL XJOT JO UVSOT

	E\$	E%	
Z%	Z\$ ?	E%	Z4
Z%	Z\$	E%	Z4
Z\$	Z6	E\$	Z4
Z*	E\$	E%	Z4
Z\$	E\$	E6	E4
Z%	E*	E*	Z*
Z\$	E*	E6	?E*
Z*	Z%	E*	Z4?

\*O UIF TFRVFODF BCPWF #MBDL TUBSUT CZ TBGFHVBSEJOH B GVUVSI  
 8IJUF EFGFOET CZ UISFBUFOJOH UP DPWFS #MBDL #FFUMF #MBDL IBT  
 ESPQ JO UIF QPDLFU DSFBUE FBSTMJFS BOE UP ESPQ #MBDL #FFUMF  
 UP UIF SJOH GPSNFE CZ 8IJUF 8IJUF (SBTTIPQQFS DBO FTDBQF 5VSC  
 FGGPSU CZ #MBDL UP GSFF POF PG UIFJS (SBTTIPQQFST UP dMM UIF dO  
 5IJT TPMVUJPO IBT CFFO QSPWFO BT B WBMJE GPSDFE #MBDL JDUPSZ  
 UIF BTTVNQUJPO UIBU UIF dSTU NPWF JT TQB XOJOH #MBDL "OU 5IF T  
 POF PG NBOZ GPSDFE XJOT DBO ZPV dOE B CFUUF S POF

1V[[MF

5IF TFRVFODF JT

	E*	Z4	
Z6	E%	E%	Z3
Z%	E*	E%	Z/
Z%	Z4	E%	E3

\*G #MBDL TUBSUT UIF TFRVFODF XJUI B EJGGFSFOU NPWF 8IJUF "OU  
 8IJUF (SBTTIPQQFS "GUF S #MBDL@T dSTU NPWF 8IJUF #FFUMF BC  
 GFDUJWFMZ JNNPCJMJTFE TJODF SFMFBTJOH UIF CVHT UIFZ QJO XPV  
 WJDUPSZ GPS #MBDL

"GUF S #MBDL@T UIJSE NPWF POF NJHIU UIJOL UIBU 8IJUF XJMM XPO  
 UIF 8IJUF 1JMMCVH UP XBSQ #MBDL (SBTTIPQQFS JOUP UIF MBTU LJM  
 2VFFO #VU\$JHFE PN UP .PW\$VWIFOUT UIBU GSPN IBQQFOJOH BT B CF  
 IBT GPSNFE CFUXFFO #MBDL #FFUMF BOE 8IJUF #FFUMF

7FSTJPO



1V[[MF

5IF TFRVFODF JT

E\* ?E6  
 Z6 ?E\* E\* E3  
 Z E\* E\*  
 Z% E3 E\* Z4?

\$PWFSJOH UIF #MBDL 1JMMCVH JT 8IJUF@T POMZ QPTTJCMF EFGFOTF  
 #MBDL 1JMMCVH XJMM XBSQ UIF #MBDL 2VFFO JOTJEF UIF SJOH GPSNF  
 /PUF IPX UIF HPBM PG #MBDL (SBTTIPQQFS JT OPU UP BUUBDL CVU U  
 NBUJPO PG UIF OFX SJOH

1V[[MF

5IF TFRVFODF JT

Z\$ ?Z\* E\$ Z\*  
 Z0 Z\$ Z/ E% Z/  
 Z% E0

8IJUF DPOUSPMT #MBDL@T NPWFT JO PSEFS UP OPU MPTF JNNFEJBUFM  
 UISFBUFOT UP XJO UIF O UIF 8IJUF -BEZCVH BOE dOBMMZ 8IJUF #FFUM

1V[[MF

5IF EPPS GPSNBUJPO CFUXFFO 8IJUF 4QJEFS BOE 8IJUF (SBTTIPQQFS  
 UP dMMBLJMM TQPU 'SPNUIFSFPO OPUIJOH DBO TUPQ #MBDL #FFUM  
 UP DIBOHF LJMM TQPUT UP BMMPX #MBDL #FFUMF UP ESPQ GPS UIF X

E6 Z4  
 Z E% Z4  
 Z E% Z4  
 Z E\* Z4  
 Z E% Z4

1V[[MF

5IF TFRVFODF JT

E0 ?Z\$  
 Z% E\* E0 Z0  
 Z0 Z\$ E\$ Z4

8IJUF NBZ NPWF B QJFDF PUIFS UIBO UIF 8IJUF .PTRVJUP PO UVSO \*O U  
 .PTRVJUP dMMT UIF MBTU LJMM TQPU

1V[[MF

8IJUF XJOT JO UVSOT

Z0 ?Z\* E  
 Z0 E4

8IFO UIF 8IJUF .PTRVJUP ESPQT EPXO UP HSPVOE MFWFM JU HBJOT (SE  
 BU UIF TBNF UJNF JU TVSSPVOET UIF #MBDL 1JMMCVH 5IFSF JT OPUIJ  
 UIF #MBDL WJDUPSZ

1V[[MF

8IJUF XJOT JO UVSOT 5IFSF BSF TFWFSBM XJOOJOH TFRVFODFT 5IJT

E\$ Z\$ ?  
 Z\* Z\$ E\$ Z\*  
 Z\$ E4? E\$ ?Z4  
 Z\* Z\$ ? E\$ Z\*  
 Z6 Z4 E\* E\$  
 Z6 E4

8IJUF NVTU QMBZ DBSFGVMMZ UP OPU MFU UIF #MBDL 2VFFO FTDBQF  
 BMMPXFE UP ESPQ OPSUI FBTU PG UIF #MBDL 2VFFO UIF 8IJUF .PTRV  
 JU UP QSFWFOU JU GSPN FTDBQJOH 5IF POMZ XBZ UP TUPQ UIF #MBDL  
 EPXO BOE UIXBSUJOH #MBDL@T QMBO JT UP FOTVSF UIBU UIF MBTU LJMM  
 JO UIF GPMMPXJOH NPWF

1V[[MF

8IJUF DBO XJO JO UVSOT BT GPMMPXT

E\$ E%  
 Z\* ?E% E% Z\$  
 Z\* ?E4 E  
 Z% E4

)PXFWS #MBDL@T dSTU NPWF JT OPU GPSDFE BOE 8IJUF@T BUUBDL D  
 FOUFSJOH UIF HBNF FBTU PG #MBDL #FFUMF

E\$ E%  
 Z\* Z\$ E% Z\$

5IF 8IJUF BUUBDLFST BSF OPX QJOEFE BOE #MBDL DBO TUBSU B DPVOU

1V[[MF

5IF TFRVFODF JT

Z\* Z\$ E\$ Z\*  
 Z\* Z\* E  
 Z\* Z\$ ? E  
 Z\$ E4 E  
 Z% E4

5IF LJMM TQPU TPVUI XFTU PG UIF #MBDL 2VFFO OFFET UP CF dMMFE d  
 SFNBJOJOH (SBTTIPQQFST JO SFTFSWF UP DSFBUF B QPDLFU GPS 8IJU  
 "OU UP NPWF GSFFMZ XJUIJO UIF JOOFS IJWF BOE UP dMM UIF QFOVML

1V[[MF

5IF TFRVFODF SFHBSEMFTT PG #MBDL@T NPWFT JT

Z\* Z6 E  
Z\* Z6 E  
Z\* Z\$ E  
Z\* Z\* E  
Z% E4? E  
Z\* ?E4

\*G 8IJUF (SBTTIPQQFS TQBXOT TPVUI FBTU PG 8IJUF 4QJEFS BJJNJOH  
8IJUF 2VFFO #MBDL XJMM IBWF UJNF UP SFMFBTF #MBDL #FFUMF BOE

1V[[MF

8IJUF XJOT JO UVSOT 5IFSF BSF NVMUJQMF XJOOJOH TFRVFODFT 5I

Z\* ?Z4 E% Z\*  
Z% Z/ E/ E\$  
Z/ Z\$ E\$ Z3  
Z3 Z\* Z\*

8IJUF NVTU CF DBSFGVM XJUI UIF PSEFS JO XIJDI UIFZ FYFDVUF UIFJ  
#MBDL XJMM CF BCMF UP EFGFOE TVDDFTTGVMZ %FQFOEJOH PO #M  
UVSOT NBZ QMBZ PVU EJGGFSFOUMZ CVU 8IJUF XJMM BMXBZT CF BCMF

1V[[MF

#MBDL XJOT JO UVSOT 'PS UIJT QV[[MF UIFSF BSF UXP QPTTJCMF TF  
#MBDL NPWF UIBU GSFFT #MBDL (SBTTIPQQFS

4FRVFODF

E\$ E\*  
Z\$ E% ? E% E\*  
Z\$ E4 E% Z4?

4FRVFODF

E\$ E\*  
Z% E% E\* Z4?  
Z\$ E4 E\* ?Z4

1V[[MF

5IF TFRVFODF JT

Z\$	Z%	E\$	Z%
Z\$	E\$	E	
Z6	Z%	E	
Z\$	Z6	E	
Z%	Z*	E	
Z%	E4	E	
Z%	E4	E	
Z%	E4		

\*G 8IJUF TUBSUT UIF TFRVFODF CZ QJOOJOH #MBDL "OU #MBDL DBO  
 "OU TPVUI XFTU PG #MBDL #FFUMF SFMFBTJOH JU BOE DPNQMJDUBU  
 DPOTFRVFODF JU JT JNQPSUBOU UP FOTVSF UIBU #MBDL@T dSTUNPWI  
 UP SFMFBTF #MBDL #FFUMF JT FMJNJOBUE 8IJUF "OU GSFFJOH 8I  
 NPWF HVBSBOUFFT FYBDUMZ UIBU

1V[[MF

5IF TFRVFODF JT

	E%	Z4	
Z*	?E*	E3 Z3	?E3
Z		E0 Z3	E0
Z		E%	Z4

5IF LFZ UP UIJT QV[[MF JT UP PQFO VQ B QBUI GPS UIF 8IJUF 1JMMCVH UP  
 OFYU UP UIF 8IJUF 2VFFO 5IJT JT BDIJFWFE CZ BMMPXJOH 8IJUF (SBTT

1V[[MF

#MBDL XJOT BGUFS UVSOT

	E\$	E6	?
Z%	Z*	? E*	Z0
Z	Z4?		

8JUI #MBDL@T TFDPOE NPWF BMM PG 8IJUF@T QJFDFT BSF JNNPCJMJT  
 GPS 8IJUF PO UVSO JT UP TQBXO B OFX QJFDF JO UIF MBTU LJMM TQPU

1V[[MF

#MBDL XJOT JO UVSOT CZ GPSDJOH 8IJUF UP TQBXO OFX CVHT JO UXP

		E%	Z%
Z\$	?Z4	E\$	?Z\$
Z%	Z4	E\$	Z4?

1V[[MF

8IJUF DBO TVSWJWF GPS UVSOT

Z/	E6	E*	Z4
Z\$	?E0	E%	E6
Z%	?Z\$	E%	Z3
Z		E%	Z4
Z		E%	Z4

5P BWPJE BO JNNFEJBUF EFGFBU 8IJUF NVTU dMM UIF IPMF JO UIF SJ +VNQJOH BXBZ XJUI 8IJUF (SBTTIPQQFS CSFBLT UIF SJOH CVU UIF 8I XBSQFE JO PO #MBDL@T OFYU UVSO #MBDL #FFUMF XJMM ESPQ BOE

1V[[MF

5IF TFRVFODF JT

		E\$	Z4?
Z0	?Z*	E3	Z% E3
Z		E/	Z4

8IJUF OFFET UP TUPQ #MBDL "OU GSPN dMMJOH UIF MBTU LJMM TQPU UIBU DBO FBTJMZ TUPQ OFX BUUBDLFST BT TPPO BT UIFZ FOUFS UIF I QMBDFNFOU UISFBUFOT B 8IJUF WJDUPSZ PO UIF OFYU UVSO 5IJT GPS LJMM TQPU 8BSQJOH 8IJUF #FFUMF UP SFMFBTF UIF #MBDL -BEZCVH SFNPWFT UIF 8IJUF UISFBU

1V[[MF

8IJUF XJOT JO UVSOT

Z/ E4? E0 E%  
 Z Z\$ E\$ Z6  
 Z\$ Z\* E  
 Z\* E4

5IF UZQF PG QJFDF TQBXOFE CZ 8IJUF PO UIFJS TFDPOE NPWF JT JSSF  
 UJWF PG UIF OFXMZ TQBXOFE CVH JT UP DPOUSJCVUF UP UIF DSFBUIP  
 (SBTTIPQQFS

1V[[MF

#MBDL XJOT JO UVSOT

E\$ Z4  
 Z\$ E\* E\* ?E%  
 Z\$ Z0? E3 Z\$  
 Z0 E4 E3 Z\$ E3  
 Z0 E\$ E4? E3 Z0 E3  
 Z\$ ?E\* E% E4  
 Z E% Z4

\*U@TBMPOHTFRVFODFTUBSUJOHXJUI#MBDLBUUBDLJOHUPQVUQSF  
 DPVQMFPGNPWFT#MBDLDBOOPUTVTUBJOUIFQSFTTVVSFBOE8IJUFC  
 CZUISFBUFOJOHUPXJOPOUIFOFYUNPWF#MBDLXBSQTBXBZ8IJUFC  
 OPU SFdMMUIFWBDBUFE LJMM TQPU JNNFEJBUFMZ 'SPNUIBUQPJOU  
 UIFBUUBDLBOEXJO

1V[[MF

5IF TFRVFODF JT

		E*	E4?
Z\$	E*	?	E6 Z6
Z6	E%		E* E\$
Z		E*	?Z4
Z		E%	Z4

00 UVSO 8IJUF NBZ BEWBODF XJUI 8IJUF #FFUMF UP DPWFS #MBDL #  
#MBDL@TNPWFT BOE BSF FYFDVUFE JO SFWFSTF PSEFS

1V[[MF

#MBDL XJOT JO UVSOT

		E6	E4?
Z0	E%		E% E\$ ?
Z3	E0	?Z3	E/ Z3?
Z0	Z4		E% E\$
Z		E%	Z3
Z		E%	?Z4

5IJT QV[[MF JT GSPN UIF HBNF 5 )7 DTJHFFF 2VPEMJCFU J  
CFU TPMWFE UIF QV[[MF JO SFBM UJNF \*O UIF HBNF 8IJUF EFGFOEFE T  
UIF TPMVUJPO QSFTFOUFE IFSF



1V[[MF

5IF TFRVFODF JT

Z\* Z\$ E% E\$  
 Z\* E6 E% Z\*  
 Z% ?E4 E% Z\*  
 Z\* Z% E\$ Z\*  
 Z% E% E  
 Z% E4 E  
 Z% E4 E  
 Z% ?E4

\$PWFSJOH UIF #MBDL 2VFFO PO UIF dSTU UVSO XPVME QVU 8IJUF BU B  
 TJODF #MBDL JT BCMF UP TVSSPVOE UIF 8IJUF@T 2VFFO JO UVSOT  
 8IJUF GSPN KVNQJOH TPVUI XFTU XJUI 8IJUF (SBTTIPQQFS BT UIBU  
 8IJUF@T SFNBJOJOH BUUBDLFST CFJOH QJOOFE

1V[[MF

8IJUF XJOT JO UVSOT

Z% E% E  
 Z3 ?Z0 E  
 Z0 E4 Z0

/PUF IPX 8IJUF DSFBUFT B OFX TQBXO QPJOU CZ DMJNCJOH XJUI 8IJUF  
 8IJUF 1JMMCVH IBT CFFO TQBXOFE UIF BEKBDFOU 8IJUF .PTRVJUP HBJ  
 DBO XBSQ UIF #MBDL 2VFFO JOUP UIF DMPTFE SJOH UP DMBJN BO JNNF

1BHF JOURNAL POBMMZ MFGU CMBOL

### 3FGFSFODFT

1V[[MF -PJ[[ C \* QMBO UP QPTU B MPU PG #FHJOOFS@T 1V[[MF  
#PBSEMFTT (BNF 'BDFCPPL HSPVQ +BO <'#>

1V[[MF -PJ[[ C1V[[MF GPS CFHJOOFS TC QPTU FE JO )JWF UIF #  
'BDFCPPL HSPVQ +VO <'#>

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF JNBHF C)JWF 1V[[MF C #((QPTU .BS <#((> <

1V[[MF JNBHF C)JWF 1V[[MF C #((QPTU %FD <#((>

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF 5IF@&OUPNPMPHJTU C)JWF QV[[MF C #((QPTU 4FQ

1V[[MF 'PSH(PUUFO C1V[[MF C QPTU FE JO UIF 5FMFHSBN DIBU  
CPBSEMFTT HBNF 0DU

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF -PJ[[ C#FHJOOFS@T 1V[[MFC QPTU FE JO )JWF UIF #PB  
'BDFCPPL HSPVQ +VO <'#>

1V[[MF JNBHF C)JWF 1V[[MF C #((QPTU 'FC <#((> <

1V[[MF (BOEBD C2VJ[[[[[[ C QPTU FE CZ 'SBTDP PO )JWF UIF #  
'BDFCPPL HSPVQ +BO <'#>

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF 'PSH(PUUFO C1V[[MF C QPTU FE JO UIF 5FMFHSBN DIB  
CPBSEMFTT HBNF /PW

1V[[MF 0SJHJOBM QV[[MF QSFJWPVTMZ VOSFMFBTFE

1V[[MF JNBHF C)JWF 1V[[MF C #((QPTU 'FC <#((> <

1V[[MF JNBHF C)JWF 1V[[MF C #((QPTU 'FC <#((>

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1BHF JOURNAL POBMMZ MFGU CMBOL

### 3Tagf fZWSgfZade

7` d[cgWEVWS` a [e S 5a\_ bgfVd 7` Y[ VWdi [fZ S BZ6 [ 7`WUfda` [Ue 'h[ Y S` V i ad] [ Y  
[ 5S\_ TdVYWG=ž: W[e S` Sh[V dVSVVdaXeU[W UWŽ Uf[a` S` V X` fSek S` V S` W fZge[Sef  
TaSdV YS\_ Wž: WZSeTWW b'Sk[ Y: [hWxad` VŠdk & kVŠdel ZSe VW: [hWfcd[ [ Y eVee[a` e  
S` V eZSdVW Z[e W fZge[Se\_ Xad fZ WYS\_ Wsf Z[e i ad] b'SUMž: WS'ea Ua` fdTgfWw fa fZW  
adY S` [eSf[a` aXfZW def: [hWDSb[V Fagd S\_ W fž

<a` Se=da` S` VVdZSeSBZ6 [ efd[ Y fZVadk S` V 'hVē'gef` adfZ aXEfaU] Za^ [ Ei VVW ž  
: WZSe S` [ fVdVef [ \_ SfZW\_ Sf[Uel bdaYdS\_ \_ [ Y S` V 'aY[US^bgI I 'Mē Tgf S'ea W 'ake  
dg` [ Y S` V e] [[ YžE[ UWZWW[eUahVdW: [hW[ 3bd^\$ " \$" ZWZSeTWW Suf[hWk W YSYW  
[ fZW: [hWUa\_ \_ g` [fkž: WZSe VVē[Y` VW bgI I 'Mē [ hVēf[YSfW: [hWabW [ Y efSf[ef[Uel  
\_ S` gXSufgdW Ugefa\_ : [hWb[VUWē S` V UaŽadY S` [I VW fZW def fi a [fVŠf[a` e aXfZW: [hW  
DSb[V Fagd S\_ W fž

5Zd[ef[S` EbVdY` Y [e S bZafaYdSbZVdS` V Xad\_ VdSdUZ [fWUf Xda\_ 4VdY` †9Vd\_ S` kt` ai  
'h[ Y [ 4d[eT S` W 3gefcd'SžE[ UW\$ " \* ZW[eZaa] VW a` : [hWi a` fZW\$" #&: [hWA` ' W  
I adV 5ZS\_ b[a` eZ[b S` V ` [eZ VW &j Se fZWdg` ` Wžgbž A hVd fZWkVŠde ZWZSe fdS[ VW  
[ ` g\_ WŠT 'Wb'SkVē S` V ZWbVW bgT 'eZ[ Y eVhVŠ^Taa] e STagf fZWYS\_ Wž: W[e S'ea  
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;Xkag W 'akVW: [hWBgI I 'Mē Ha 'g\_ WA` Wi Zk` af egbbad[ Y ge1  
4gk ge S UaXVWSf Zffbe,!!i i i žgk\_ VŠUaXVWUa\_ !Z[hWBgI I 'Mē

FZWZ[hWUa`efW\*Sf[a`eZai`a`fZWXd`f bSYWi Se UdMSfW Tk 7`d[cgWž: WTg[`f S dŠ`Ž Va\_ bae[f[a`fZSfi ag`V f` [UWka`fZ WuahWž3XWdZ Sh[`Y SdŠ`YW fZ WTgYeSd[fdSd[`k [ fa S ea\_ W ZSf dMS`ef[U bae[f[a`ZW`af[UW fZ Sf [fi Se [ VWW S Xg`Uf[a`S^bgli`Wž;f i SegeW [ a`WaXfZ WbdWždWSeWfWSeWdebaefW a`eaU[S^`Wfi ad]eS`a`Yi [fZ fZWWž eUd]bf[a`4`SU] fa \_ ahWS`Vi [ [ ` %fgd`ež;f TWUS\_ WSbbSdW f fZ Sf fZWbglI`Wi Se fd[U] Wd fZ S` [ [f[S`k Vy bWUfWž 8adfZ Sf dMS`ea`i WWU[VW fa [ U`gVWfZ Wea`gf[a`Xd[f ZVdW

1.                    bA3 bB1\
2. wA1 /bA3, bM /bA1
3. w\*\* \*\*\*, bM -wQ

FZW] Wk [e fa W egdWfZ Sf 4`SU] US` i [ ` a \_ SffWd[XfZWI Z[fWCgVW [eTW[`Yi SdbW Si Sk adefSk[`Y [ b`SUmž 4`SU] `WWW eS`afZ Wd TgYi [fZ S`f \_ aT[`fkt b`SUW Sf S baež f[a`i Z WdWI Z[fWUS``af b[ [f S`V UdMSfWS YSfWSd`g`V fZW`Sef ] [^ebaf Sf fZ WeS\_ W f[ Wž 8gd fZ Wd\_ adW fZ Sf SVV[f[a`S^TgY eZag`V`af bdWfW f fZW4`SU] 9dSeeZ abbWd Xd\_ i [ ` [ Y [ USeWfZWI Z[fWCgVW [ei SdbW fa fZW`ad fZ WSe f aXfZWI Z[fWB[`TgYž fZW b`SUW\_ W f aXfZ W4`SU] ? aecg[fa eagfZž Wef aX4`SU] 3`f #SUZ [WWe Vy Suf`k fZ Sfž fZW abf[a`fa U[ T gb fZWZ[hWi [fZ 4`SU] 4Wf`W#[e`af fSd`Wfž adW fWž I Z[fW3`f #US` bdWfW f 4`SU] Xd\_ bWd\_ [ Y S V[dWUf Vdab S`V VdŠY fZWYS\_ Wagfž





PUZZLES

Do you fancy a new Hive challenge? Looking to improve your end game skills? Then this compilation with 60 tricky puzzles from beginner to master level is for you.

Take a peek in the hint section when you are struggling and compare your solutions with the proposed move sequences at the end of the book.

All challenges are clickable and linked to an online Hive editor for convenient puzzle solving.

Have fun and enjoy!

Believe me:  
You will want to  
get yourself a copy!

Randy Ingersoll  
Hive Online World Champion 2011