

Appendix 2

SIMULATE 1

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LET X$ShapeE=0.99831
KCTF CAPACITY
KCTR CAPACITY
KCTE CAPACITY
KCT2 CAPACITY 2
LosK2A CAPACITY
PSK2AD CAPACITY 5
LasK2A CAPACITY
PSK2AL CAPACITY 5
LosK2B CAPACITY
PSK2BD CAPACITY 5
LasK2B CAPACITY
PSK2BL CAPACITY 5
KCT1 CAPACITY 2
Weibul VALUEOF (-fn$log(1-rn6))^(1/x$shapeE)
WeiLos VALUEOF (-fn$log(1-rn6))^(1/0.80461)
LossKA VALUEOF fn$int(14.67*V$WeiLos)+1
WeiLas VALUEOF (-fn$log(1-rn6))^(1/0.8108)
LastKA VALUEOF Fn$int(13*V$WeiLas)+1
LossKB VALUEOF fn$int(14.67*V$WeiLos)+1
LastKB VALUEOF Fn$int(13*V$WeiLas)+1
    GENERATE ,,1,1    ! (Loc: +1,-2)
    ENTER KCTF,10000
    ENTER KCTR,10000
    ENTER KCTE,10000
    TERMINATE

    GENERATE 818*V$Weibul
    GOTO NoNeed,0.4
    LET x$QKAA=CI
    ENTER KCT2,1,Q
    LET x$QKAB=CI
    PRINT 'Waiting Time KCT 2 NEW;',x$QKAB-x$QKAA,0
    IF KCT2A=U,KCT2B
    SEIZE KCT2A
    LET x$KATOTA=CI
    ADVANCE 30,5
    SEIZE KCT2AA
    LET x$KCT2AA=CI
    SEIZE RSA
    GOTO LoadK,0.07
    ENTER LosK2A,V$LossKA    ! (Loc: +1,+2)
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    LET x$lossA=S$LosK2A
AKCTAB    WAITIF PSK2AD=F
    SEIZE CrK2AD,Q
    LET x$CADA=CI
    LEAVE LosK2A,1
    ADVANCE 5,1
    ENTER PSK2AD,1
    SPLIT 1,SRSAD
    RELEASE CrK2AD
    LET x$CADB=CI
    LET+ x$CAD,x$CADB-x$CADA
    IF LosK2A=NE,AKCTAB
per    GOTO ByeA,0.4
    ADVANCE 1 ! Control
    WAITIF PSK2AD=NE
    WAITIF RSAD=U
LoadK    ENTER LasK2A,V$LastKA
    LET x$lastA=S$LasK2A
    PRINT '_____ '
NoDonA    WAITIF PSK2AL=F
    SEIZE RSAL
    LET x$RALA=CI
    SPLIT 1,SCranA
    GOTO KCTALF,0.06
    GOTO KCTALE,0.65
    ADVANCE 1.2,0.3
    GOTO NoHo4,0.91
    ADVANCE 2
NoHo4    LEAVE KCTR,1
    ADVANCE 2.5,0.5
    ENTER PSK2AL,1
    LEAVE LasK2A,1
    RELEASE RSAL
    LET x$RALB=CI
    LET+ x$RAL,x$RALB-x$RALA
    IF LasK2A=NE,NoDonA
DDR    GOTO RSDONA,1
RSDONA    RELEASE RSA    ! (Loc: +2,+1)
    ADVANCE 1
    WAITIF PSK2AL=NE
    WAITIF CrK2AL=U
ByeAA    RELEASE KCT2AA
    LET x$KCT2AB=CI
    PRINT '-----'
    LET+ x$STATKA,1
    SPLIT 1,WRSA
    ADVANCE 30,5
    RELEASE KCT2A

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LEAVE KCT2,1
LET x$KATOTB=CI
LET x$KATOT=x$KATOTB-x$KATOTA
LET X$KALL=x$KCT2AB-x$KCT2AA
LET x$CKATOT=x$CAL+x$CAD
PRINT 'TOTAL LIGGETID KCT 2 A;',x$KATOT,0
PRINT 'Totaltid Kran KCT2 A;',x$CKATOT,0
PRINT 'Last/LOSS prosess A;',X$KALL,0
PRINT 'Crane Utility A;',(x$CKATOT/x$KATOT)*100
LET x$CAL=0
LET x$CAD=0
TERMINATE 1
RSKA LET x$BRSA=0      ! (Loc: -2,+4)
RELEASE RSA
TERMINATE
WRSA WAITIF PSK2AD=NE ! (Loc: -14,-1)
WAITIF RSAD=U
LET x$RKATOT=x$RAL+x$RAD
PRINT 'Antall Losset KCT 2 A;',x$lossA,0
PRINT 'Antall Lastet KCT2 A;',x$LastA,0
PRINT 'Totaltid RS KCT2A;',x$RKATOT,0
PRINT 'RS tid bruk A per container;',x$RKATOT/(x$lossA+x$LastA)*100
LET x$RAL=0
LET x$RAD=0
LET x$lastA=0
LET x$lossA=0
IF x$BRSA=1,RSKA
TERMINATE
BYEA LET x$BRSA=1      ! (Loc: -18,-2)
GOTO ByeAA
SCranA WAITIF PSK2AL=E ! (Loc: -12,+5)
SEIZE CrK2AL,Q
LET x$CALA=CI
WAITIF PSK2AL=E
LEAVE PSK2AL,1
ADVANCE 5,1
LET x$CALB=CI
LET+ x$CAL,x$CALB-x$CALA
RELEASE CrK2AL
TERMINATE
KCTALE ADVANCE 1.4,0.3 ! (Loc: -13,-4)
GOTO NoHo2,0.91
ADVANCE 2
NoHo2 LEAVE KCTE,2
ADVANCE 1.6,0.5
ENTER PSK2AL,1
LEAVE LasK2A,1
RELEASE RSAL

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LET x$RALB=CI
LET+ x$RAL,x$RALB-x$RALA
IF LasK2A=NE,NoDonA
GOTO RSDONA,1
KCTALF    ADVANCE 1.9,0.3    ! (Loc: -11,+2)
GOTO NoHo3,0.91
ADVANCE 2
NoHo3 LEAVE KCTF,1
ADVANCE 3.5,0.5
ENTER PSK2AL,1
LEAVE LasK2A,1
RELEASE RSAL
LET x$RALB=CI
LET+ x$RAL,x$RALB-x$RALA
IF LasK2A=NE,NoDonA
GOTO RSDONA,1
SRSAD    WAITIF PSK2AD=E    ! (Loc: -16,+4)
SEIZE RSAD
LET x$RADA=CI
LEAVE PSK2AD,1
GOTO K2ADF,0.19
ADVANCE 2.5,0.5
GOTO NoShi4,0.87
ADVANCE 2
NoShi4    ENTER KCTR,1
ADVANCE 1.2,0.3
RELEASE RSAD
LET x$RADB=CI
LET+ x$RAD,x$RADB-x$RADA
TERMINATE
K2ADFGOTO K2ADFF,0.16 ! (Loc: -9,+2)
ADVANCE 1.6,0.5
GOTO NoShi5,0.87
ADVANCE 2
NoShi5    ENTER KCTE,1
ADVANCE 1.4,0.3
RELEASE RSAD
LET x$RADB=CI
LET+ x$RAD,x$RADB-x$RADA
TERMINATE
K2ADFF    ADVANCE 3.5,0.5    ! (Loc: -8,+2)
GOTO NoShi3,0.87
ADVANCE 2
NoShi3    ENTER KCTF,1
ADVANCE 1.9,0.3
RELEASE RSAD
LET x$RADB=CI
LET+ x$RAD,x$RADB-x$RADA
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TERMINATE
KCT2BSEIZE KCT2B! (Loc: -42,+2)
  LET x$KBTOTA=CI
  ADVANCE 30,5
  SEIZE KCT2BA
  LET x$KCT2BA=CI
  SEIZE RSB
  GOTO LoaKB,0.07
  ENTER LosK2B,V$LossKB ! (Loc: +1,+2)
  LET X$LossB=S$LosK2B
KCT2BB    WAITIF PSK2BD=F
  SEIZE CrK2BD
  LET x$CBDA=CI
  LEAVE LosK2B,1
  ADVANCE 5,1
  ENTER PSK2BD,1
  SPLIT 1,RSBD
  RELEASE CrK2BD
  LET x$CBDB=CI
  LET+ x$CBD,x$CBDB-x$CBDA
  IF LosK2B=NE,KCT2BB
  GOTO Bye2B,0.4
  ADVANCE 1 ! Controll
  WAITIF PSK2BD=NE
  WAITIF RSBD=U
LoaKB ENTER LasK2B,V$LastKB
  LET x$LastB=S$LasK2B
NoDoBWAITIF PSK2BL=F
  SEIZE RSBL
  LET x$RBLA=CI
  SPLIT 1,SCra2B
  GOTO KCTF,0.06
  GOTO KCTE,0.65
  ADVANCE 1.2,0.3
  GOTO NoHo1,0.91
  ADVANCE 2
NoHo1 LEAVE KCTR,1
  ADVANCE 2.5,0.5
  ENTER PSK2BL,1
  LEAVE LasK2B,1
  RELEASE RSBL
  LET x$RBLB=CI
  LET+ x$RBL,x$RBLB-x$RBLA
  IF LasK2B=NE,NoDoB
  GOTO RDONB,1
RDONB    RELEASE RSB    ! (Loc: +2,+1)
  ADVANCE 1
  WAITIF PSK2BL=NE

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        WAITIF CrK2BL=U
ByeBB RELEASE KCT2BA
        LET x$KCT2BB=CI
        PRINT '-----'
        LET+ x$STATKB,1
        SPLIT 1,WRSB
        ADVANCE 30,5
        RELEASE KCT2B
        LEAVE KCT2,1
        LET x$KBTOTB=CI
        LET x$KBTOT=x$KBTOTB-x$KBTOTA
        LET X$KBLL=x$KCT2BB-x$KCT2BA
        LET x$CKBTOT=x$CBL+x$CBD
        PRINT 'TOTAL LIGGETID B;',x$KBTOT,0
        PRINT 'Totaltid Kran KCT2 B;',x$CKBTOT,0
        PRINT 'Last/LOSS prosess B;',X$KBLL,0
        PRINT 'Crane Utility B;',(x$CKBTOT/x$KBTOT)*100
        LET x$CBL=0
        LET x$CBD=0
        TERMINATE 1
RSKB LET x$BRSB=0      ! (Loc: -2,+3)
        RELEASE RSB
        TERMINATE
WRSB WAITIF PSK2BD=NE ! (Loc: -13,-1)
        WAITIF RSBD=U
        LET x$RKBTOT=x$RBL+x$RBD
        PRINT 'Antall lastet KCT B;',X$LastB,0
        PRINT 'Antall losset KCT B;',X$LossB,0
        PRINT 'Totaltid RS KCT2B;',x$RKBTOT,0
        PRINT 'RS tid bruk B per container;',x$RKBTOT/(x$lossB+x$LastB)*100
        LET x$RBL=0
        LET x$RBD=0
        LET x$LastB=0
        LET x$LossB=0
        IF x$BRSB=1,RSKB
        TERMINATE
Bye2B LET x$BRSB=1      ! (Loc: -19,-1)
        GOTO ByeBB
SCra2B      WAITIF PSK2BL=E  ! (Loc: -11,+5)
        SEIZE CrK2BL
        LET x$CBLA=CI
        WAITIF PSK2BL=E
        LEAVE PSK2BL,1
        ADVANCE 5,1
        LET x$CBLB=CI
        LET+ x$CBL,x$CBLB-x$CBLA
        RELEASE CrK2BL
        TERMINATE

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NoNeed      LET x$QKBA=CI      ! (Loc: -46,-1)
          ENTER KCT1,1,Q
          LET x$QKBB=CI
          PRINT 'Ventetid KCT 1 NEW; ',x$QKBB-x$QKBA,0
          IF KCT1A=U,KCT1B
          SEIZE KCT1A
          LET x$KAA1=CI
          ADVANCE 30,5
          ADVANCE 228*fn$xpdis
          ADVANCE 30,5
          LET x$KAB1=CI
          PRINT '<><><><><><><><><><><><><><>'
          PRINT 'LIGGETID KCT1 A;',x$KAB1-x$KAA1,0
          PRINT '<><><><><><><><><><><><><>'
          RELEASE KCT1A
          LEAVE KCT1,1
          TERMINATE 1

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KCT1BSEIZE KCT1B! (Loc: -11,+2)
          LET x$KBA1=CI
          ADVANCE 30,5
          ADVANCE 228*fn$xpdis
          ADVANCE 30,5
          LET x$KBB1=CI
          PRINT '<><><><><><><><><><><><><>'
          PRINT 'LIGGETID KCT1 B;',x$KBB1-x$KBA1,0
          PRINT '<><><><><><><><><><><><><>'
          RELEASE KCT1B
          LEAVE KCT1,1
          TERMINATE 1

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KCTE  ADVANCE 1.9,0.3      ! (Loc: +16,-5)
          GOTO NoHo5,0.91
          ADVANCE 2

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NoHo5 LEAVE KCTE,2
          ADVANCE 3.5,0.5
          ENTER PSK2BL,1
          LEAVE LasK2B,1
          RELEASE RSBL
          LET x$RBLB=CI
          LET+ x$RBL,x$RBLB-x$RBLA
          IF LasK2B=NE,NoDoB
          GOTO RDONB,1

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KCTF  ADVANCE 1.4,0.3      ! (Loc: -11,+2)
          GOTO NoHo6,0.91
          ADVANCE 2

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```

NoHo6 LEAVE KCTF,1
          ADVANCE 1.6,0.3
          ENTER PSK2BL,1
          LEAVE Lask2B,1

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```
RELEASE RSBL
LET x$RBLB=CI
LET+ x$RBL,x$RBLB-x$RBLA
IF LasK2B=NE,NoDoB
GOTO RDONB,1
RSBD WAITIF PSK2BD=E  ! (Loc: -15,+5)
SEIZE RSBD
LET x$RBDA=CI
LEAVE PSK2BD,1
GOTO SCDBF,0.19
ADVANCE 2.5,0.5
GOTO NoShi1,0.87
ADVANCE 2
NoShi1      ENTER KCTR,1
ADVANCE 1.2,0.3
RELEASE RSBD
LET x$RBDB=CI
LET+ x$RBD,x$RBDB-x$RBDA
TERMINATE
SCDBF      GOTO SCDBFF,0.16 ! (Loc: -9,+2)
ADVANCE 3.5,0.5
GOTO NoShi2,0.87
ADVANCE 2
NoShi2      ENTER KCTE,1
ADVANCE 1.9,0.3
RELEASE RSBD
LET x$RBDB=CI
LET+ x$RBD,x$RBDB-x$RBDA
TERMINATE
SCDBFF     ADVANCE 1.6,0.5  ! (Loc: -8,+2)
GOTO NoShi6,0.87
ADVANCE 2
NoShi6      ENTER KCTF,1
ADVANCE 1.4,0.3
RELEASE RSBD
LET x$RBDB=CI
LET+ x$RBD,x$RBDB-x$RBDA
TERMINATE
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START 450

END