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: ClrHome
: Output(1,1,"STATCALC V1.0.0")
: Output(2,1,"BY TSCHIGGERS")
: Output(3,1,"WITH BURDSEYE")
: Pause
: Ø→P
: 3→θ
: Lbl SM
: ClrHome
: Menu(" StatCalc Pro ", "Set dec
places",DP,"Calculate z",CZ,"Calculate
p",CP,"Calculate obs",OC,"Outlier test",OT,"More
options...",NL,"Exit",EX)
: Lbl NL
: Menu(" StatCalc Pro ", "5-num
summary",SS,"Probability...",PR,"Sampling
dist",AD,"Interval/Tests",ZT,"Back...",SM)
: Lbl SS
: 5→W
: Goto LM
: Lbl AD
: Ø→G
: Menu(" Sampling dist. ", "Mean/stan dev",DS,">k of
samp",AL,"<k of samp",AM,"+/-
percent",PM,"Back...",SM)
: Lbl DS
: ClrHome
: Output(2,1,"Ø for unknown")
: Input "Pop size: ",A
: Input "Pop prop: ",P
: If P<Ø or P>1
: Then
: Output(3,1,"Population must")
: Output(4,1,"be between Ø-1.")
: Pause
: Goto DS
: End
: Input "Samp size: ",N
: round( $\sqrt{(P(1-P)/N)}$ ,θ)→S
: Ø→I
: If A<1ØN
: Then
: 1→I
: End
: If NP<1Ø
: Then
: 1→I
: End
: If N(1-P)<1Ø
: Then
: 1→I
: End
: ClrHome
: Output(1,1,"Mean:")
: Output(1,7,P)
: Output(2,1,"Standev:")
: Output(2,1Ø,S)
: Lbl EN
: Output(4,1,"NOTE:")
: Output(5,1,"Calculations are")
: If A=Ø
: Then
: Output(6,1,"invalid due to")
: Output(7,1,"the unknown pop.")
: Goto CØ
: End
: If I=1
: Then
: Output(6,1,"invalid due to")
: Output(7,1,"the sample size.")
: Goto CØ
: End
: Output(6,1,"valid after both")
: Output(7,1,"sampling tests.")
: Lbl CØ

: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl PM
: 2→G
: Goto AL
: Lbl AM
: 1→G
: Lbl AL
: ClrHome
: Input "Pop size: ",A
: Input "Pop prop: ",P
: If P<Ø or P>1
: Then
: Output(3,1,"Proportion must")
: Output(4,1,"be between Ø-1.")
: Pause
: Goto AL
: End
: Input "Samp size: ",N
: If G=2
: Then
: Input "Min prop: ",K
: Input "Max prop: ",X
: Goto DI
: End
: Input "Samp prop: ",K
: Lbl DI
:  $\sqrt{(P(1-P)/N)}$ →S
: (K-P)/S→Z
: round(Z,θ)→Ø
: If G=2
: Then
: (X-P)/S→U
: round(normalcdf(Z,U),θ)→V
: round(U,2)→R
: round(Z,2)→Ø
: End
: If G=Ø
: Then
: round(normalcdf(Z,1E99),θ)→V
: End
: If G=1
: Then
: round(normalcdf(-1E99,Z),θ)→V
: End
: 1ØØV→C
: Ø→I
: If A<1ØN
: Then
: 1→I
: End
: If NP<1Ø
: Then
: 1→I
: End
: ClrHome
: If G=2
: Then
: Output(1,1,"z1:")
: Output(1,4,Ø)
: Output(1,1Ø,"z2:")
: Output(1,13,R)
: Else
: Output(1,1,"z-score:")
: Output(1,1Ø,Ø)
: End
: Output(2,1,"p-value:")
: Output(2,1Ø,V)
: Output(3,1,"Percent:")
: Output(3,1Ø,C)

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: Goto EN
: Lbl DP
: Menu(" Decimal places ", "None (0)", D0, "1 (.4)", D1, "2
(.37)", D2, "3 (.372)", D3, "4 (.3720)", D4)
: Lbl D0
: 0→θ
: Goto SM
: Lbl D1
: 1→θ
: Goto SM
: Lbl D2
: 2→θ
: Goto SM
: Lbl D3
: 3→θ
: Goto SM
: Lbl D4
: 4→θ
: Goto SM
: Lbl LM
: 0→E
: Menu("      Use list
", "L1", L1, "L2", L2, "L3", L3, "L4", L4, "L5", L5, "L6", L6, "Ot
her...", L7)
: Lbl L7
: ClrHome
: Output(3,1,"Use [2nd]List to")
: Output(4,1,"select the list.")
: Input "List name: ", R
: 1-Var Stats LR
: 1→E
: Goto SR
: Lbl L1
: 1→L
: Goto S5
: Lbl L2
: 2→L
: Goto S5
: Lbl L3
: 3→L
: Goto S5
: Lbl L4
: 4→L
: Goto S5
: Lbl L5
: 5→L
: Goto S5
: Lbl L6
: 6→L
: Lbl S5
: If L=1
: Then
: 1-Var Stats L1
: End
: If L=2
: Then
: 1-Var Stats L2
: End
: If L=3
: Then
: 1-Var Stats L3
: End
: If L=4
: Then
: 1-Var Stats L4
: End
: If L=5
: Then
: 1-Var Stats L5
: End
: If L=6
: Then
: 1-Var Stats L6
: End
: Lbl SR
: If W=0
: Then
:  $\bar{x}$ →X
: n→N

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: Goto NI
: End
: If W=1
: Then
:  $\bar{x}$ →X
: n→N
: Sx→S
: Goto CL
: End
: If W=3
: Then
:  $\bar{x}$ →M
: n→N
: Goto IN
: End
: If W=4
: Then
:  $\bar{x}$ →M
: n→N
: Sx→S
: Goto LC
: End
: ClrHome
: Output(1,1,"5-Number Summary")
: Output(2,1,"-----")
: Output(3,1,"minX: ")
: Output(3,7,minX)
: Output(4,1,"Q1: ")
: Output(4,5,Q1)
: Output(5,1,"Med: ")
: Output(5,6,Med)
: Output(6,1,"Q3: ")
: Output(6,5,Q3)
: Output(7,1,"maxX: ")
: Output(7,7,maxX)
: Output(8,1,"Press enter...")
: Pause
: If E=1
: Then
: DelVar LR
: End
: Goto SM
: Lbl EX
: ClrHome
: Stop
: Lbl CZ
: ClrHome
: Input "Mean: ", M
: Input "Stan dev: ", S
: Input "Obs value: ", X
: round((X-M)/S,θ)→Z
: Output(6,1,"z-score: ")
: Output(6,10,Z)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl CP
: ClrHome
: Menu(" Calculate p... ", "Use obs values", P0, "Use z-
scores", PZ, "Use t-scores", PT, "Use  $\chi^2$ 
stat", PX, "Back...", SM)
: Lbl PZ
: Input "Min bound z: ", L
: Input "Max bound z: ", U
: round((normalcdf(L,U)),θ)→P
: 100P→C
: Lbl VW
: Output(5,1,"p-value: ")
: Output(5,10,P)
: Output(6,1,"Percent: ")
: Output(6,10,C)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl P0
: Input "Mean: ", M
: Input "Stan dev: ", S
: Input "Min obs: ", L
: Input "Max obs: ", U

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: (L-M)/S→J
: (U-M)/S→K
: round(normalcdf(J,K),θ)→P
: 100P→C
: Goto VW
: Lbl PT
: Input "Min bound t: ",L
: Input "Max bound t: ",U
: Input "Deg freedom: ",F
: round(tcdf(L,U,F),θ)→P
: 100P→C
: Goto VW
: Lbl PX
: Input "χ² stat: ",X
: Input "Deg freedom: ",F
: round(χ²cdf(X,1E99,F),θ)→P
: 100P→C
: Goto VW
: Lbl OC
: ClrHome
: Menu("    Obs Calc    ", "Top percent",TC, "Bottom
percent",BC, "Top proportion",TP, "Bottom
prop.",BP, "Percentile",PL, "Use zscore
(x)",OZ, "Back...",SM)
: Lbl BC
: Input "Percent: ",C
: Input "Mean: ",M
: Input "Stan dev: ",S
: invNorm(C/100)→Z
: Goto SC
: Lbl TC
: Input "Percent: ",C
: Input "Mean: ",M
: Input "Stan dev: ",S
: invNorm(1-(C/100))→Z
: Lbl SC
: round(Z,θ)→H
: round(ZS+M,θ)→O
: Output(5,1,"z-score: ")
: Output(5,10,H)
: Output(6,1,"Obs value: ")
: Output(6,12,O)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl BP
: Input "Proportion: ",P
: Input "Mean: ",M
: Input "Stan dev: ",S
: invNorm(P)→Z
: Goto SC
: Lbl TP
: Input "Proportion: ",P
: Input "Mean: ",M
: Input "Stan dev: ",S
: invNorm(1-P)→Z
: Goto SC
: Lbl PL
: Input "Percentile: ",L
: Input "Mean: ",M
: Input "Stan dev: ",S
: invNorm(L/100)→Z
: Goto SC
: Lbl OZ
: Input "z-score: ",Z
: Input "Mean: ",M
: Input "Stan dev: ",S
: round(ZS+M,θ)→O
: Output(5,1,"Obs value: ")
: Output(5,12,O)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl OT
: Input "Q1: ",M
: Input "Q3: ",N
: round((N-M,θ)→I
: Output(4,1,"IQR: ")
: Output(4,6,I)
: round((N+1.5(I),θ)→H
: round((M-1.5(I),θ)→L
: Output(5,1,"High OL: ")
: Output(5,10,H)
: Output(6,1,"Low OL: ")
: Output(6,9,L)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl PR
: Menu("    Probability    ", "Random var",RV, "Binomial
var",BV, "Geometric var",GV, "Back...",SM)
: Lbl RV
: Menu("Random variables", "Single var",SV, "Indep.
vars",IV, "Back...",PR)
: Lbl SV
: ClrList LNUM
: ClrList LPROB
: 1→C
: ClrHome
: Output(1,1,"Input the number")
: Output(2,1,"and probability")
: Output(3,1,"of each item.")
: Output(4,1,"To end inputs,")
: Output(5,1,"type 0 twice.")
: Output(8,1,"Press enter...")
: Pause
: ClrHome
: Lbl AI
: If C<10
: Then
: Output(1,14,"< >")
: Output(1,15,C)
: Else
: Output(1,13,"< >")
: Output(1,14,C)
: End
: Input "Number: ",N
: Input "Prob: ",P
: If N=0 and P=0
: Then
: Goto CM
: End
: If C=1
: Then
: {N}→LNUM
: {P}→LPROB
: Else
: augment(LNUM,{N})→LNUM
: augment(LPROB,{P})→LPROB
: End
: C+1→C
: If ((C-1)/4)=int((C-1)/4)
: Then
: ClrHome
: End
: Goto AI
: Lbl CM
: ClrHome
: If sum(LPROB)≠1
: Then
: Output(1,1,"Probabilities do")
: Output(2,1,"not add up to 1.")
: Pause
: Goto SV
: End
: sum(LNUM*LPROB)→M
: sum((LNUM-M)² LPROB)→V
: √(V)→D
: round(M,θ)→N
: round(V,θ)→O
: round(D,θ)→P
: Output(1,1,"Mean: ")
: Output(1,7,N)
: Output(2,1,"Variation: ")
: Output(2,12,O)
: Output(3,1,"Stan dev: ")
: Output(3,11,P)
: DelVar LNUM

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: DelVar LPROB
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl GV
: Menu(" Geometric var. ", "n trials", NT, "<=k
trials", KT, "Avg trials (u)", AT, "Back...", PR)
: Lbl NT
: ClrHome
: Input "Prob: ", P
: Input "Trials: ", N
: round(geometpdf(P,N),θ)→S
: Output(4,1,"Probability of")
: Output(5,1,"success: ")
: Output(5,1θ,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl KT
: ClrHome
: Input "Prob: ", P
: Input "Max trials: ", K
: round(geometcdf(P,K),θ)→S
: Output(4,1,"Probability of")
: Output(5,1,"success: ")
: Output(5,1θ,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl AT
: ClrHome
: Input "Prob: ", P
: round(1/P,θ)→M
: Output(3,1,"Average number")
: Output(4,1,"of trials, 1st")
: Output(5,1,"success:")
: Output(5,1θ,M)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl BV
: Menu(" Binomial var ", "k of n success", KN, "<=k of
n", LK, ">=k of n", GK, "a to b of n", AB, "Mean/Stan
dev", SD, "Back...", PR)
: Lbl KN
: ClrHome
: Input "Trials: ", N
: Input "Successes: ", K
: Input "Prob: ", P
: round(binompdf(N,P,K),θ)→S
: Output(4,1,"Probability of")
: Output(5,1,"exact number of")
: Output(6,1,"outcomes:")
: Output(6,11,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl LK
: ClrHome
: Input "Trials: ", N
: Input "Successes: ", K
: Input "Prob: ", P
: round(binomcdf(N,P,K),θ)→S
: Output(4,1,"Probability of")
: Output(5,1,"k or fewer")
: Output(6,1,"outcomes:")
: Output(6,11,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl GK
: ClrHome
: Input "Trials: ", N
: Input "Successes: ", K
: Input "Prob: ", P
: round(1-binomcdf(N,P,K-1),θ)→S
: Output(4,1,"Probability of")
: Output(5,1,"k or more")
: Output(6,1,"outcomes:")
: Output(6,11,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl AB
: ClrHome
: Input "Trials: ", N
: Input "Max success: ", B
: Input "Min success: ", A
: Input "Prob: ", P
: round(binomcdf(N,P,B)-binomcdf(N,P,A-1),θ)→S
: Output(5,1,"Probability of")
: Output(6,1,"'between a to b'")
: Output(7,1,"outcomes:")
: Output(7,11,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl SD
: Input "Trials: ", N
: Input "Prob: ", P
: round(NP,θ)→M
: round(√(NP(1-P)),θ)→S
: Output(4,1,"Mean:")
: Output(4,7,M)
: Output(5,1,"Stan dev:")
: Output(5,11,S)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl IV
: ClrHome
: Input "Mean x: ", E
: Input "Mean y: ", F
: Menu(" Use data ", "variance (σ²)", VD, "stan dev
(σ)", US)
: Lbl VD
: θ→U
: Input "Variance x: ", G
: Input "Variance y: ", H
: Goto TF
: Lbl US
: 1→U
: Input "Stan dev x: ", I
: Input "Stan dev y: ", J
: Lbl TF
: round(E+F,θ)→A
: round(E-F,θ)→B
: If U=1
: Then
: round(I²+J²,θ)→C
: Else
: round(G+H,θ)→C
: End
: round(√(C),θ)→D
: ClrHome
: Output(1,1,"Mean x+y:")
: Output(1,11,A)
: Output(2,1,"Mean x-y:")
: Output(2,11,B)
: Output(3,1,"Var x+y:")
: Output(3,1θ,C)
: Output(4,1,"Var x-y:")
: Output(4,1θ,C)
: Output(5,1,"Sdev x+y:")
: Output(5,11,D)
: Output(6,1,"Sdev x-y:")
: Output(6,11,D)
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl ZT
: Menu(" Signif/conf ", "Calculate z*", ZA, "Calculate
t*", TA, "Conf interval", IL, "Signif test", TG, "LinReg
infs", RG, "Back...", SM)
: Lbl IL
: ClrHome
: 3→W

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: Menu(" Interval type ", "z-dist (pop  $\sigma$ )", ZI, "t-dist
(samp $\sigma$ )", TI, "1-Prop z-dist", OI, "2-Prop z-dist", WZ, "2-
Samp t-dist", WT, "Match. pairs t", UC, "Back...", ZT)
: Lbl WT
: 7 $\rightarrow$ W
: Goto PG
: Lbl WZ
: 11 $\rightarrow$ W
: Input "Outcomes1: ", N
: Input "Successes1: ", X
: Input "Outcomes2: ", 0
: Input "Successes2: ", Y
: Goto LC
: Lbl OI
: 10 $\rightarrow$ W
: Input "Outcomes: ", N
: Input Input Successes: ", X
: Goto LC
: Lbl TI
: 4 $\rightarrow$ W
: Lbl ZI
: Menu("Sample mean/size", "Input values", IU, "Use
list...", LM)
: Lbl IU
: Input "Sample mean: ", M
: Input "Sample size: ", N
: Lbl IN
: If W=4
: Then
: Input "Samp sdev: ", S
: Else
: Input "Pop sdev: ", S
: End
: Lbl LC
: Input "Conf level: ", C
: If C $\leq$ 0 or C>1
: Then
: Output(6,1,"Conf level must")
: Output(7,1,"be between 0-1.")
: Output(8,1,"Press enter...")
: Pause
: ClrHome
: Goto LC
: End
: Lbl SL
: If W=7
: Then
: Input "Conf level: ", 0
: If 0 $\leq$ 0 or 0>1
: Then
: Output(6,1,"Conf level must")
: Output(7,1,"be between 0-1.")
: Output(8,1,"Press enter...")
: Pause
: ClrHome
: Goto SL
: End
: 2-SampTInt B,C,A,X,S,N,0
: ClrHome
: round(lower, $\theta$ ) $\rightarrow$ L
: round(upper, $\theta$ ) $\rightarrow$ U
: round(df, $\theta$ ) $\rightarrow$ F
: round(upper-(B-X), $\theta$ ) $\rightarrow$ G
: round((upper-(B-X))/ $\sqrt{(C^2/A)+(S^2/N)}$ ), $\theta$ ) $\rightarrow$ Z
: Output(1,1,"Data entered:")
: Output(2,1," $\bar{x}_1$ :")
: Output(2,5,B)
: Output(3,1,"Sx1:")
: Output(3,6,C)
: Output(4,1,"n1:")
: Output(4,5,A)
: Output(5,1," $\bar{x}_2$ :")
: Output(5,5,X)
: Output(6,1,"Sx2:")
: Output(6,6,S)
: Output(7,1,"n2:")
: Output(7,5,N)
: Output(8,1,"See conf int...")
: Pause

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: ClrHome
: Goto IS
: End
: If W=11
: Then
: 2-PropZInt(X,N,Y,0,C)
: ClrHome
: round(lower, $\theta$ ) $\rightarrow$ L
: round(upper, $\theta$ ) $\rightarrow$ U
: round( $\hat{p}_1$ , $\theta$ ) $\rightarrow$ R
: round( $\hat{p}_2$ , $\theta$ ) $\rightarrow$ S
: round(upper-( $\hat{p}_1-\hat{p}_2$ ), $\theta$ ) $\rightarrow$ G
: round((upper-( $\hat{p}_1-\hat{p}_2$ ))/ $\sqrt{(\hat{p}_1(1-\hat{p}_1)/N)+(\hat{p}_2(1-\hat{p}_2)/N)}$ ), $\theta$ ) $\rightarrow$ Z
: Goto IS
: End
: If W=10
: Then
: 1-PropZInt(X,N,C)
: ClrHome
: round(lower, $\theta$ ) $\rightarrow$ L
: round(upper, $\theta$ ) $\rightarrow$ U
: round( $\hat{p}$ , $\theta$ ) $\rightarrow$ H
: round(upper- $\hat{p}$ , $\theta$ ) $\rightarrow$ G
: round((upper- $\hat{p}$ )/ $\sqrt{(\hat{p}(1-\hat{p})/N)}$ ), $\theta$ ) $\rightarrow$ Z
: Goto IS
: End
: If W=4 or W=8
: Then
: TInterval M,S,N,C
: N-1 $\rightarrow$ F
: Else
: ZInterval S,M,N,C
: End
: ClrHome
: round(lower, $\theta$ ) $\rightarrow$ L
: round(upper, $\theta$ ) $\rightarrow$ U
: round(upper-M, $\theta$ ) $\rightarrow$ G
: round((upper-M)* $\sqrt{(N)/S}$ ), $\theta$ ) $\rightarrow$ Z
: Lbl IS
: Output(1,1,"Conf int limits")
: Output(2,1,"-----")
: Output(3,1,"Lower:")
: Output(3,8,L)
: Output(4,1,"Upper:")
: Output(4,8,U)
: If W=11
: Then
: Output(5,1," $\hat{p}_1$ :")
: Output(5,4,R)
: Output(5,9," $\hat{p}_2$ :")
: Output(5,12,S)
: End
: If W=10
: Then
: Output(5,1," $\hat{p}$ :")
: Output(5,4,H)
: End
: Output(6,1,"Err marg:")
: Output(6,11,G)
: If W=4 or W=8
: Then
: Output(7,1,"t*:")
: Output(7,11,"df:")
: Output(7,15,F)
: Else
: Output(7,1,"z*:")
: End
: Output(7,5,Z)
: If W=7
: Then
: Output(5,1,"Deg free:")
: Output(5,11,F)
: Output(7,1,"t*:")
: End
: If C=1
: Then
: Output(7,5,"infinity")
: Output(6,11,"infin")

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: Output(3,8,"-infinity")
: Output(4,8,"infinity")
: End
: If E=1
: Then
: DelVar L
: End
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl ZA
: ClrHome
: Input "Conf level: ",C
: If C<0 or C>1
: Then
: Output(4,1,"Conf level must")
: Output(5,1,"be between 0-1.")
: Output(8,1,"Press enter...")
: Pause
: Goto IC
: End
: ZInterval 1,0,1,C
: round(upper,0)→Z
: normalcdf(upper,1E99)→V
: round(V,0)→P
: round(100V,0)→L
: Output(3,1,"z*:")
: Output(3,5,Z)
: Output(4,1,"p-value:")
: Output(4,10,P)
: Output(5,1,"Percent:")
: Output(5,10,L)
: If C=1
: Then
: Output(3,5,"infinity")
: Output(4,10,"0")
: Output(5,10,"0")
: End
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl TA
: ClrHome
: Input "Sample size: ",N
: If N≤1 or N≠int(N)
: Then
: Output(4,1,"Sample must be")
: Output(5,1,"an integer >1.")
: Output(8,1,"Press enter...")
: Pause
: Goto TA
: End
: Lbl IC
: Input "Conf level: ",L
: If L<0 or L>1
: Then
: Output(4,1,"Conf level must")
: Output(5,1,"be between 0-1.")
: Output(8,1,"Press enter...")
: Pause
: ClrHome
: Goto IC
: End
: TInterval 0,1,N,L
: upper*√(N)→O
: round(O,0)→T
: N-1→F
: tcdf(O,1E99,F)→V
: round(V,0)→P
: round(100V,0)→C
: Output(4,1,"Deg freedom:")
: Output(4,14,F)
: Output(5,1,"t*:")
: Output(5,5,T)
: Output(6,1,"p-value:")
: Output(6,10,P)
: Output(7,1,"Percent:")
: Output(7,10,C)
: If L=1
: Then
: Output(5,5,"infinity")
: Output(6,10,"0")
: Output(7,10,"0")
: End
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl TG
: ClrHome
: 0→W
: Menu(" Testing type ", "1-Samp z-test",ZS,"1-Prop z-
test",00,"2-Prop z-test",TZ,"t tests...",TM,"χ² One-
way",CS,"χ² w/matrix",QF,"Back...",ZT)
: Lbl TM
: Menu(" Testing type ", "1-Samp t-test",TS,"2-Samp t
(=0)",DE,"2-Samp t (=k)",DN,"Match. pairs
t",MP,"z/χ² -tests...",TG,"Back...",ZT)
: Lbl TS
: 1→W
: Lbl ZS
: Menu("Sample mean/size", "Input values",VI,"Use
list...",LM)
: Lbl VI
: Input "Sample mean: ",X
: Input "Sample size: ",N
: Lbl NI
: If W=1
: Then
: Input "Samp sdev: ",S
: Else
: Input "Pop sdev: ",S
: End
: Lbl CL
: Input "Claimed mean: ",M
: Lbl RO
: Input "Signif level: ",A
: If A>1 or A<0
: Then
: Output(7,1,"Signif must be ")
: Output(8,1,"between 0-1.")
: Pause
: ClrHome
: Goto RO
: End
: Menu("Alternative mean", "True < claim",UA,"True >
claim",AS,"True ≠ claim",NE)
: Lbl UA
: -1→D
: Goto DT
: Lbl AS
: 1→D
: Goto DT
: Lbl NE
: 0→D
: Lbl DT
: ClrHome
: If W=1 or W=9
: Then
: T-Test M,X,S,N,D
: round(t,0)→Z
: Else
: Z-Test (M,S,X,N,D)
: round(z,0)→Z
: End
: round(p,0)→P
: round(A,3)→C
: N-1→F
: Output(1,1,"True mean")
: If W=9
: Then
: Output(1,6,"diff")
: End
: If D=-1
: Then
: Output(1,11,"<")
: End
: If D=0
: Then

```

```

: Output(3,10,Z)
: Output(4,1,"p-value:")
: Output(4,10,P)
: If  $N\hat{p} \geq 10$  and  $N(1-\hat{p}) \geq 10$  and ( $L/N \geq 10$  or  $L=0$ )
: Then
: If  $p \leq A$ 
: Then
: Output(5,1,"Results are")
: Else
: Output(5,1,"Results are not")
: End
: Output(6,1,"stat significant")
: Output(7,1,"at a=")
: Fix 3
: Output(7,6,C)
: Float
: Output(7,10,".")
: Else
: Output(5,1,"Calculations are")
: Output(6,1,"invalid due to")
: Output(7,1,"conditions check")
: End
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl TZ
: ClrHome
: Input "Outcomes1: ",N
: Input "Successes1: ",X
: Input "Outcomes2: ",0
: Input "Successes2: ",Y
: Output(6,1,"Type 0 for large")
: Input "Pop: ",L
: Input "Signif level: ",A
: Menu("Alternative hypo","Prop1 < Prop2",DU,"Prop1 > Prop2",DA,"Prop1 ≠ Prop2",ED,"p1-p2<0",DU,"p1-p2>0",DA,"p1-p2≠0",ED)
: Lbl DU
: -1→D
: Goto FD
: Lbl DA
: 1→D
: Goto FD
: Lbl ED
: 0→D
: Lbl FD
: ClrHome
: 2-PropZTest(X,N,Y,0,D)
: round( $\hat{p}_1$ ,0)→R
: round( $\hat{p}_2$ ,0)→S
: round(p,0)→P
: round(z,0)→Z
: round( $\hat{p}$ ,0)→H
: round(A,3)→C
: Output(1,1,"p1")
: If D=-1
: Then
: Output(1,3,"<")
: End
: If D=0
: Then
: Output(1,3,"≠")
: End
: If D=1
: Then
: Output(1,3,">")
: End
: Output(1,4,"p2")
: Output(1,9," $\hat{p}$ :")
: Output(1,12,H)
: Output(2,1," $\hat{p}_1$ :")
: Output(2,4,R)
: Output(2,9," $\hat{p}_2$ :")
: Output(2,12,S)
: Output(3,1,"z-score:")
: Output(3,10,Z)
: Output(4,1,"p-value:")
: Output(4,10,P)

```

```

: If  $N\hat{p}_1 \geq 10$  and  $N(1-\hat{p}_1) \geq 10$  and  $0\hat{p}_2 \geq 10$  and  $0(1-\hat{p}_2) \geq 10$ 
:   and ( $L/N \geq 10$  or  $L=0$  or  $L/0 \geq 10$ )
: Then
:   If  $p \leq A$ 
:   Then
:     Output(5,1,"Results are")
:   Else
:     Output(5,1,"Results are not")
:   End
:   Output(6,1,"stat significant")
:   Output(7,1,"at a=")
:   Fix 3
:   Output(7,6,C)
:   Float
:   Output(7,10,".")
:   Else
:     Output(5,1,"Calculations are")
:     Output(6,1,"invalid due to")
:     Output(7,1,"conditions check")
:   End
:   Output(8,1,"Press enter...")
:   Pause
:   Goto SM
:   Lbl DN
:   6→W
:   Goto PG
:   Lbl DE
:   0→W
:   Lbl PG
:   ClrHome
:   Menu(" Samples  $\bar{x}$ ,n,Sx ", "Input values",EV,"Use
lists...",MJ)
:   Lbl EV
:   Input "Samp mean1: ",B
:   Input "Samp size1: ",A
:   Input "Samp sdev1: ",C
:   Input "Samp mean2: ",X
:   Input "Samp size2: ",N
:   Input "Samp sdev2: ",S
:   Goto KJ
:   Lbl MJ
:   0→E
:   Menu(" Use first list
", "L1",M1,"L2",M2,"L3",M3,"L4",M4,"L5",M5,"L6",M6,"Ot
her...",M7)
:   Lbl M7
:   ClrHome
:   Output(3,1,"Use [2nd]List to")
:   Output(4,1,"select the list.")
:   Input "List name: ",R
:   1-Var Stats LR
:   1→E
:   Goto JK
:   Lbl M1
:   1→L
:   Goto JW
:   Lbl M2
:   2→L
:   Goto JW
:   Lbl M3
:   3→L
:   Goto JW
:   Lbl M4
:   4→L
:   Goto JW
:   Lbl M5
:   5→L
:   Goto JW
:   Lbl M6
:   6→L
:   Lbl JW
:   If L=1
:   Then
:     1-Var Stats L1
:   End
:   If L=2
:   Then
:     1-Var Stats L2
:   End
:   If L=3
:   Then
:     1-Var Stats L3
:   End
:   If L=4
:   Then
:     1-Var Stats L4
:   End
:   If L=5
:   Then
:     1-Var Stats L5
:   End
:   If L=6
:   Then
:     1-Var Stats L6
:   End
:   Lbl JK
:   If W=2 or W=12
:   Then
:     n→N
:      $\bar{x}$ →X
:     Sx→S
:     Goto KJ
:   End
:   n→A
:      $\bar{x}$ →B
:     Sx→C
:     If W=7
:     Then
:       12→W
:       Goto KM
:     End
:     2→W
:     Lbl KM
:     Menu("Use second list
", "L1",M1,"L2",M2,"L3",M3,"L4",M4,"L5",M5,"L6",M6,"Ot
her...",M7)
:     Lbl KJ
:     If W=12 or W=7
:     Then
:       7→W
:       Goto SL
:     End
:     If W=6
:     Then
:       Input "Mean diff: ",K
:       X+K→X
:     End
:     Input "Signif level: ",0
:     Menu("Alternative hypo", "Mean1 < Mean2",C1,"Mean1 >
Mean2",C2,"Mean1 ≠ Mean2",C3,"u1-u2<0/k",C1,"u1-
u2>0/k",C2,"u1-u2≠0/k",C3)
:     Lbl C1
:     -1→D
:     Goto GZ
:     Lbl C2
:     1→D
:     Goto GZ
:     Lbl C3
:     0→D
:     Lbl GZ
:     ClrHome
:     2-SampTTest B,C,A,X,S,N,D
:     round(t,θ)→T
:     round(p,θ)→P
:     round(df,θ)→F
:     round(A,θ)→A
:     round(B,θ)→B
:     round(C,θ)→C
:     round(X,θ)→X
:     round(N,θ)→N
:     round(S,θ)→S
:     round(0,3)→0
:     Output(1,1,"Data entered:")
:     Output(2,1," $\bar{x}_1$ :")
:     Output(2,5,B)
:     Output(3,1,"Sx1:")
:     Output(3,6,C)
:     Output(4,1,"n1:")

```



```

: Output(4,5,A)
: Output(5,1," $\bar{x}_2$ :")
: Output(5,5,X)
: Output(6,1," $Sx_2$ :")
: Output(6,6,S)
: Output(7,1," $n_2$ :")
: Output(7,5,N)
: Output(8,1,"Test results...")
: Pause
: ClrHome
: Output(1,1,"u1")
: If D=-1
: Then
: Output(1,3,"<")
: End
: If D=0
: Then
: Output(1,3,"=")
: End
: If D=1
: Then
: Output(1,3,">")
: End
: Output(1,4,"u2")
: If W=6
: Then
: Output(1,6," diff=")
: Output(1,13,K)
: End
: Output(2,1,"t-score:")
: Output(2,10,T)
: Output(3,1,"p-value:")
: Output(3,10,P)
: Output(4,1,"Deg free:")
: Output(4,11,F)
: If p≤0
: Then
: Output(5,1,"Results are")
: Else
: Output(5,1,"Results are not")
: End
: Output(6,1,"stat significant")
: Output(7,1,"at a=")
: Fix 3
: Output(7,6,0)
: Float
: Output(7,10,".")
: Output(8,1,"Press enter...")
: Pause
: If E=1
: Then
: DelVar L R
: End
: Goto SM
: Lbl MP
: 9→W
: Goto AQ
: Lbl UC
: 8→W
: Lbl AQ
: Menu("Is data in lists","Yes",0G,"No",HC)
: Lbl HC
: ClrHome
: Output(1,1,"StatCalc will")
: Output(2,1,"now exit. Please")
: Output(3,1,"enter two sets")
: Output(4,1,"of data into two")
: Output(5,1,"lists and run")
: Output(6,1,"StatCalc again.")
: Output(8,1,"Press enter...")
: Pause
: ClrHome
: Stop
: Lbl OG
: ClrList L DIFF
: ClrHome
: Output(3,1,"Use [2nd]List to")
: Output(4,1,"select the lists")
: Input "List1 name: ",Q

```

```

: Input "List2 name: ",R
: LQ←L R→L DIFF
: DelVar L Q
: DelVar L R
: 1-Var Stats L DIFF
:  $\bar{x}$ →M
:  $Sx$ →S
: n→N
: round(M,0)→X
: round(S,0)→Y
: ClrHome
: If W=9
: Then
: Input "Claimed mean: ",0
: Input "Signif level: ",A
: Else
: Output(1,1,"Matched pairs")
: Output(2,1," T-Interval")
: Output(3,1,"-----")
: End
: Output(4,1,"Data entered:")
: Output(5,1," $\bar{x}$ :")
: Output(5,4,X)
: Output(6,1," $Sx$ :")
: Output(6,5,Y)
: Output(7,1,"n:")
: Output(7,4,N)
: If W=8
: Then
: Output(8,1,"See conf int...")
: Pause
: DelVar L DIFF
: ClrHome
: Goto LC
: Else
: M→X
: 0→M
: Output(8,1,"Finish test...")
: Pause
: DelVar L DIFF
: Menu("Alternative hypo","Mean1 < Mean2",UA,"Mean1 > Mean2",AS,"Mean1 ≠ Mean2",NE,"u1-u2<0",UA,"u1-u2>0",AS,"u1-u2≠0",NE)
: End
: Lbl CS
: ClrHome
: Menu(" Data entry ", "Use lists...",F0,"Type observed",EF,"Back...",TG)
: Lbl F0
: ClrList L CHI
: ClrHome
: Output(3,1,"Use [2nd]List to")
: Output(4,1,"select the lists")
: Input "Obs list: ",Q
: Input "Exp list: ",R
: Goto DH
: Lbl EF
: Output(5,1,"Type values in")
: Output(6,1,"form {1,2,3,4}.")
: Input "Obs: ",L Q
: Lbl IP
: Input "Props: ",L PER
: If sum(L PER)≠1
: Then
: Output(5,1,"Proportions do")
: Output(6,1,"not add up to 1.")
: Pause
: ClrHome
: Goto IP
: End
: sum(L Q)*L PER→L R
: DelVar L PER
: Lbl DH
: Input "Signif level: ",A
: round(A,3)→C
: (L Q-L R)2/L R→L CHI
: dim(L Q)-1→F
: DelVar L Q
: round(sum(L CHI),0)→X

```

```

: DelVar LCHI
:  $\chi^2$  cdf(X,1E99,F)→P
: ClrHome
: Output(1,1," $\chi^2$  :")
: Output(1,5,X)
: Output(2,1,"Deg freedom:")
: Output(2,14,F)
: Output(3,1,"p-value:")
: Output(3,10,round(P,0))
: If P≤A
: Then
: Output(4,1,"Signif diff in")
: Output(5,1,"props at a=")
: Else
: Output(4,1,"Cannot conclude")
: Output(5,1,"diff, at a=")
: End
: Fix 3
: Output(5,12,C)
: Float
: Output(5,16,".")
: Output(6,1,"Test valid after")
: Output(7,1,"conditions check")
: For(N,1,dim(LR))
: If L(N)<5
: Then
: Output(6,1,"Test invalid due")
: Output(7,1,"to exp values <5")
: End
: End
: Output(8,1,"Press enter...")
: Pause
: DelVar LR
: Goto SM
: Lbl QF
: ClrHome
: Output(1,1,"WARNING: Using")
: Output(2,1,"this test will")
: Output(3,1,"clear all values")
: Output(4,1,"in matrix [J].")
: Output(7,1,"Press enter for")
: Output(8,1,"options...")
: Pause
: Menu(" Continue? ", "Yes, clear [J]", XM, "No, go
back", SM)
: Lbl XM
: ClrHome
: Menu(" Obs matrix
", "[A]", Q1, "[B]", Q2, "[C]", Q3, "[D]", Q4, "[E]", Q5, "[F]",
Q6, "More...", MY)
: Lbl MY
: Menu(" Obs matrix
", "[G]", Q7, "[H]", Q8, "[I]", Q9, "Back...", XM)
: Lbl Q1
:  $\chi^2$ -Test([A],[J])
: Goto LD
: Lbl Q2
:  $\chi^2$ -Test([B],[J])
: Goto LD
: Lbl Q3
:  $\chi^2$ -Test([C],[J])
: Goto LD
: Lbl Q4
:  $\chi^2$ -Test([D],[J])
: Goto LD
: Lbl Q5
:  $\chi^2$ -Test([E],[J])
: Goto LD
: Lbl Q6
:  $\chi^2$ -Test([F],[J])
: Goto LD
: Lbl Q7
:  $\chi^2$ -Test([G],[J])
: Goto LD
: Lbl Q8
:  $\chi^2$ -Test([H],[J])
: Goto LD
: Lbl Q9
:  $\chi^2$ -Test([I],[J])

```

```

: Lbl LD
: Input "Signif level: ", A
: round(p,0)→P
: round( $\chi^2$ ,0)→X
: round(A,3)→C
: ClrHome
: Output(1,1," $\chi^2$  :")
: Output(1,5,X)
: Output(2,1,"df:")
: Output(2,5,df)
: Output(2,8,"Exp: [J]")
: Output(3,1,"p-value:")
: Output(3,10,P)
: If p≤A
: Then
: Output(4,1,"Strong evidence,")
: Else
: Output(4,1,"Cannot conclude")
: End
: Output(5,1,"assoc at a=")
: Fix 3
: Output(5,12,C)
: Float
: Output(5,16,".")
: Output(6,1,"Checking test")
: Output(7,1,"validity...")
: ClrList LDIM
: dim([J])→LDIM
: For(R,1,LDIM(1))
: For(U,1,LDIM(2))
: If [J](R,U)<5
: Then
: Output(6,1,"Test invalid due")
: Output(7,1,"to exp values <5")
: 1→V
: End
: End
: End
: If V≠1
: Then
: Output(6,1,"Test valid after")
: Output(7,1,"conditions check")
: End
: DelVar LDIM
: Output(8,1,"Press enter...")
: Pause
: Goto SM
: Lbl RG
: DiagnosticOn
: ClrHome
: Output(1,1,"WARNING: These")
: Output(2,1,"inferences will")
: Output(3,1,"clear equation")
: Output(4,1,"stored in Y0.")
: Output(5,1,"LinReg equ will")
: Output(6,1,"be stored in Y0.")
: Output(7,1,"Press enter for")
: Output(8,1,"options...")
: Pause
: 0→K
: Menu("LinearRegression", "Conf interval", YI, "Signif
test", YT, "Back...", ZT)
: Lbl YT
: 0→Z
: 1→K
: Lbl YI
: 0→S
: Menu(" Data input ", "Use X/Y lists", CD, "Use given
data", OU)
: Lbl CD
: 1→S
: ClrList LXPTS
: ClrList LYPTS
: ClrHome
: Output(4,1,"Use [2nd]LIST to")
: Output(5,1,"select lists.")
: Input "Xlist: ", LXPTS
: Input "Ylist: ", LYPTS
: If K=1

```

```

: Then
: 1→Z
: Goto TQ
: End
: dim(LXPTS)-1→N
: Lbl HX
: Input "Conf level: ",C
: If C<0 or C>1
: Then
: Output(5,1,"Conf level must")
: Output(6,1,"be between 0-1.")
: Pause
: ClrHome
: Goto HX
: End
: TInterval 0,1,N,C
: upper*√(N)→O
: round(O,0)→T
: LinRegTTest LXPTS,LYPTS,0,Y0
: b/t→G
: round(G,0)→E
: round(b,0)→B
: df→F
: round(b-OG,0)→L
: round(b+OG,0)→U
: Lbl KU
: ClrHome
: Output(1,1,"Conf int limits")
: Output(2,1,"-----")
: Output(3,1,"Lower:")
: Output(3,8,L)
: Output(4,1,"Upper:")
: Output(4,8,U)
: Output(5,1,"b:")
: Output(5,3,B)
: If S=1
: Then
: Output(5,10,"r² :")
: Output(5,13,round(r²,3))
: End
: Output(6,1,"df:")
: Output(6,5,F)
: Output(6,8,"t*:")
: Output(6,12,T)
: Output(7,1,"Slope SE:")
: Output(7,11,E)
: Output(8,1,"Press enter...")
: Pause
: If S=1
: Then
: DelVar LXPTS
: DelVar LYPTS
: End
: Goto SM
: Lbl OU
: ClrHome
: Input "Sample size: ",N
: Input "Reg slope: ",B
: Input "Slope SE: ",E
: If K=1
: Then
: Goto TQ
: End
: Input "Conf level: ",C
: N-1→N
: N-1→F
: TInterval 0,1,N,C
: upper*√(N)→O
: round(O,0)→T
: round(B+OE,0)→U
: round(B-OE,0)→L
: Goto KU
: Lbl TQ
: Input "Signif level: ",A
: If A>1 or A<0
: Then
: Output(6,1,"Signif must be")
: Output(7,1,"between 0-1.")
: Pause
: ClrHome
: Goto TQ
: End
: If Z=1
: Then
: LinRegTTest LXPTS,LYPTS,0,Y0
: round(t/b,0)→E
: round(b,0)→B
: round(t,0)→T
: p→P
: df→F
: Else
: B/E→O
: round(O,0)→T
: N-2→F
: round(tcdf(0,1E99,F),0)→P
: End
: round(P,0)→J
: round(A,3)→C
: ClrHome
: Output(1,1,"b:")
: Output(1,3,B)
: If Z=1
: Then
: Output(1,10,"r² :")
: Output(1,13,round(r²,3))
: End
: Output(2,1,"t-score:")
: Output(2,10,T)
: Output(3,1,"p-value:")
: Output(3,10,J)
: Output(4,1,"Deg free:")
: Output(4,11,F)
: If P≤A
: Then
: Output(5,1,"Strong evidence,")
: Else
: Output(5,1,"Cannot conclude")
: End
: Output(6,1,"a signif linear")
: Output(7,1,"relat at a=")
: Fix 3
: Output(7,12,C)
: Float
: Output(7,16,".")
: Output(8,1,"Press enter...")
: Pause
: If Z=1
: Then
: DelVar LXPTS
: DelVar LYPTS
: End
: Goto SM

```