

{TESTE DA CORRIDA (RUN TEST)}

uses crt; {Se estiver usando o Turbo Pascal para Windows, usar uses wincrt;}

Type

Vetor1 = Array[1..150] of Longint;

Vetor2 = Array[0..150] of Real;

Var

 semente: double; {Variavel utilizada pela RAND2}

 N, I, J, X, Alfa, SVobs, GVobs: Longint;

 U, U1: Double;

 D, Maior, Cat, Mais, Menos, gl : Integer;

 SVesp, Quic, QuicT, SQuic, GVesp, Param, P : Real;

 Cor : Vetor1;

 Vesp, A : Vetor2;

{$I RAND2.PAS}

Function Fatorial(Number : Double): Double;

VAR

 valor : Double;

 Kounter : longint;

BEGIN

 valor := 1;

 FOR Kounter := Trunc(Number) DOWNTO 1 DO

 valor := Valor \* Kounter;

 Fatorial := valor;

END;

{\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*}

Begin

 Writeln('Quantos Numeros ?');

 Readln(N);

 Mais := 0;

 Menos := 0;

 Writeln('Qual a semente ? (1 - 2147483646) ');

 Readln(semente);

 Writeln('Escolha nivel de significancia (alfa) --> 1, 5 ou 10 %');

 Readln(Alfa);

 If Alfa = 5 then

 Begin

 Param := 1.6449;

 end

 else

 Begin

 If Alfa = 1 then

 Begin

 Param := 2.3263;

 end

 else

 Begin

 If Alfa = 10 then

 Begin

 Param := 1.2816;

 end

 else

 Begin

 Writeln('Nivel de significancia ERRADO !');

 Exit;

 end

 end

 end;

 Clrscr;

 U := Rand2;

 U1 := Rand2;

 If U1 < U then Menos := 1

 Else Mais := 1;

 For I := 1 to 150 do

 Begin

 Cor[I] := 0;

 end;

 For I:= 3 to N do

 Begin

 U := Rand2;

 If (U > U1) and (Mais <> 0) then Mais := Mais + 1;

 If (U <= U1) and (Menos <> 0) then Menos := Menos +1;

 If (U > U1) and (Mais = 0) then

 Begin

 Cor[Menos] := Cor[Menos] + 1;

 Menos := 0;

 Mais := 1;

 end;

 If (U <= U1) and (Menos = 0) then

 Begin

 Cor[Mais] := Cor[Mais] + 1;

 Menos := 1;

 Mais := 0;

 end;

 U1 := U;

 End;

 If Mais <> 0 then Cor[Mais] := Cor[Mais] + 1;

 If Menos <> 0 then Cor[Menos] := Cor[Menos] + 1;

 For I := 1 to 150 do

 Begin

 P := I;

 Vesp[I] := ((P \* P) + 3 \* P + 1) \* N;

 Vesp[I] := 2 \* (Vesp[I] - ((P \* P \* P) + 3.0 \* (P \* P) - P - 4));

 Vesp[I] := Vesp[I] / Fatorial(P + 3.0);

 If Vesp[I] < 0.001 Then Vesp[I] := 0.0;

 end;

 Cat := 150;

 While (Vesp[Cat] = 0.0) do

 Begin

 Cat := Cat - 1;

 End;

 SVesp := 0.0;

 SVobs := 0;

 Quic := 0.0;

 gl := 0;

 For I := 1 to Cat do

 Begin

 SVesp := SVesp + Vesp[I];

 SVobs := SVobs + Cor[I];

 if SVesp > 5.0 then

 Begin

 gl := gl + 1;

 SQuic := SQR(SVobs - SVesp);

 SQuic := SQuic / SVesp;

 GVesp := SVesp;

 GVobs := SVobs;

 Quic := Quic + SQuic;

 SVobs := 0;

 SVesp := 0.0;

 End;

 End;

 If SVesp <> 0 then

 Begin

 Quic := Quic - Squic;

 SVesp := SVesp + GVesp;

 SVobs := SVobs + GVobs;

 SQuic := (SQR(SVobs - SVesp) / SVesp);

 Quic := Quic + SQuic;

 End;

 gl := gl - 1;

 QuicT := 1.-(2./(9.\*gl))+(Param\*SQRT(2./(9.\*gl)));

 QuicT := QuicT \* QuicT \* QuicT;

 QuicT := gl \* QuicT + 0.005;

 Writeln('---------------------------------------');

 Writeln('Quantidade de Numeros = ',N);

 Writeln('Alfa = ',Alfa,'%');

 Writeln('Graus de Liberdade = ',gl);

 Writeln('QuiQuadrado Calc = ', Quic:8:2);

 Writeln('QuiQuadrado Tab Aprox = ', QuicT:8:2);

 Writeln('---------------------------------------');

End.