

{TESTE DO INTERVALO (GAP TEST)}

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

Type

Vetor = Array[0..10]of Longint;

Vetor1 = Array[0..1000] of Longint;

Vetor2 = Array[0..1000] of Real;

Var

semente: double; {Variavel utilizada pela RAND2}

I, J, X, Alfa : Longint;

U: Double;

N, D, K, Cat, gl : Longint;

SVobs, GVobs : Longint;

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

A : Vetor;

Gap : Vetor1;

Vesp : Vetor2;

{$I RAND2.PAS}

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

Begin

Writeln('Quantidade de Numeros ?');

Readln(N);

K := 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;

For J := 0 to 1000 do

Begin

Gap[J] := 0;

end;

For I := 0 to 10 do

Begin

A[I] := 0;

End;

For I:= 1 to N do

Begin

U := Rand2;

X := Trunc(U \* 10.0);

If X > 9 Then X := 9;

If A[X] = 0 Then

Begin

A[X] := I;

End

Else

Begin

K := I - A[X] - 1;

Gap[K] := Gap[K] + 1;

A[X] := I;

End;

End;

K := 0;

For I:= 0 to 1000 do

Begin

K := K + Gap[I];

End;

Aux := LN(0.9);

For I := 0 to 1000 do

Begin

Vesp[I] := EXP(AUX \* I) \* 0.1 \* K;

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

end;

Cat := 1000;

While (Vesp[Cat] = 0.0) do

Begin

Cat := Cat - 1;

End;

If Cat > (N - 2) then Cat := N - 2;

SVesp := 0.0;

SVobs := 0;

Quic := 0.0;

gl := 0;

For I := 0 to Cat do

Begin

SVesp := SVesp + Vesp[I];

SVobs := SVobs + Gap[I];

if SVesp > 5.0 then

Begin

gl := gl + 1;

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