Q3. Chi Square

Code:

#include<bits/stdc++.h>

using namespace std;

main()

{

vector<int>num;

int n;

cout<<"Enter the number of random numbers : ";

cin>>n;

int a;

cout<<"Enter random numbers: ";

for(int i=0; i<n; ++i)

{

cin>>a;

num.push\_back(a);

}

int classes[10]={0};

for( int i=0; i<n ; ++i)

{

if(num[i]<=10 && num[i]>0)

classes[0]++;

else if( num[i]>10 && num[i]<=20)

classes[1]++;

else if( num[i]>20 && num[i]<=30)

classes[2]++;

else if( num[i]>30 && num[i]<=40)

classes[3]++;

else if( num[i]>40 && num[i]<=50)

classes[4]++;

else if( num[i]>50 && num[i]<=60)

classes[5]++;

else if( num[i]>60 && num[i]<=70)

classes[6]++;

else if( num[i]>70 && num[i]<=80)

classes[7]++;

else if( num[i]>80 && num[i]<=90)

classes[8]++;

else if( num[i]>90 && num[i]<=100)

classes[9]++;

}

int k;

cout<<"Enter the expected value : ";

cin>>k;

cout<<"Freq. of each class : ";

for( int i=0; i<10; ++i)

cout<<classes[i]<<" ";

cout<<"\n";

float ans=0.0;

for(int i=0; i<10;++i)

{

ans+=(classes[i]-k)\*(classes[i]-k);

}

ans=ans/k;

cout<<"For 95% accuracy, chi value is 16.9\n";

cout<<"Chi value of this is : "<<ans;

if(ans<16.9)

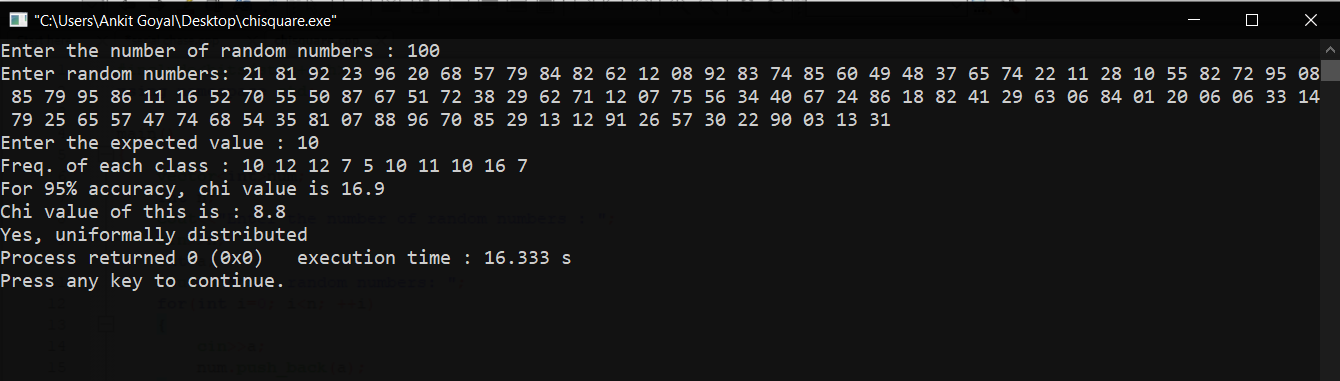
cout<<"\nYes, uniformally distributed ";

else

cout<<"\nNot uniformally distributed ";

}

**OUTPUT:**

****