#include <stdio.h>

#include <stdlib.h>

#include <math.h>

#define a 5

#define b 3

#define m 16

int main()

{

int f[20]={ },rn,i,j,r0=45;

float E,chi\_sq=0,chi\_sptab=24.96;

for(i=0;i<100;i++)

{

rn=(a\*r0+b)% m;

r0=rn;

for(j=0;j<16;j++)

{

if(j==rn)

{

f[j]=f[j]+1;

}

}

}

printf("The frequency are:\n");

for(i=0;i<16;i++)

{

printf("%d\n",f[i]);

}

E=100.0/16.0;

for(i=0;i<16;i++)

{

chi\_sq=chi\_sq+pow((f[i]-E),2)/E;

}

printf("\nThe calculated value of Chi-Square is %f\n",chi\_sq);

if(chi\_sptab > chi\_sq)

{

printf("\nH0 is not rejected.");

}

else

{

printf("\nH0 is rejected");

}

return 0;

}