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**Code For generating PseudoRandom Numbers**

#include<iostream>

#include<algorithm>

#include<vector>

#include<unordered\_map>

using namespace std;

#define noOfRandom 200

vector<int> random\_number(int seed,int m,int a,int c){

    vector<int> randoms(noOfRandom,seed);

    for(int i  = 1;i<noOfRandom;i++)

    {

        randoms[i] = ((randoms[i-1]\*a)+c)%m;

    }

    return randoms;

}

int period\_finder(vector<int> r)

{

    unordered\_map<int,int> mp;

    int count = 0;

    for(int num:r)

    {

        mp[num]++;

        if(mp[num] == 2)

        {

            break;

        }

        count++;

    }

    return count;

}

void print(vector<int> &r)

{

    for(int num:r)

    {

        cout<<num<<" ";

    }

    cout<<endl;

}

int main(){

*// For c != 0*

    int seed = 13;

    int a = 9;

    int c = 9;

    int m = 128;

    vector<int> r;

    r = random\_number(seed,m,a,c);

    int period = period\_finder(r);

    cout<<period<<endl;

    print(r);

*// For c = 0*

*// int seed = 13;*

*// int a = 1;*

*// int c = 0;*

*// int m = 5;*

*// vector<int> r;*

*// r = random\_number(seed,m,a,c);*

*// int period = period\_finder(r);*

*// cout<<period<<endl;*

*// print(r);*

}

Output:

