#include<fstream>

using namespace std;

int main()

{

 //how many times is the following loop printed 100!

 int i = 0;

 while (i < 100)

 {

 cout << i;

 i++;

 }

 //how many times? infinite!

 /\*int j = 0;

 while (j >= 0)

 {

 cout << j;

 j++;

 }\*/

 //how many times? 100!

 int k = 0;

 while (k < 200)

 {

 cout << k;

 k++;

 }

 //how many times? 4!

 int num = 520;

 while (num < 540)

 {

 cout << num << endl;

 num += 6;

 }

 //ask user to input a character and print it out

 //until user inputs a 0-9

 char c;

 cout << "Enter character: ";

 cin >> c;

 while (!(c >= '0' && c <= '9')) //treating the 0-9 as characters, so comparing ASCII

 {

 cout << c;

 cout << "\nEnter next character: ";

 cin >> c;

 }

 //Suppose that city A has 5000 people and grows 4% a year,

 //and city B has 1000 people and grows 6% yearly.

 //How long will it take for city B to have a larger population than city A?

 double cityApop = 5000;

 double cityBpop = 1000;

 int years = 0;

 while (cityApop >= cityBpop)

 {

 years++;

 cityApop \*= 1.04;

 cityBpop \*= 1.06;

 cout << "In year " << years << " cityA: " <<

 cityApop << " and cityB: " << cityBpop << endl;

 }

 cout << "It took " << years << " years! ";

 return 0;

 }