#include <iostream>

using namespace std;

int main()

{

int i;

//Dynamically allocate single variables

int \*pointerValue = new int; //dynamically allocate an integer

\*pointerValue = 7; // the contents of the value pointed to has the value 7

cout<< "the contents of the value that pointerValue points have a value of: " << \*pointerValue << endl;

// outputs 7

//dynamically allocating arrays /////////////////////////////////////////////////////////////////

int arraySize = 12;

int \*pointerValue2 = new int[arraySize]; //sytax for dynamically alocating an array of size x

//remember an array is simply a specefied space in memory with a pointer pointing to the begining of it

pointerValue2[4] = 2; //position 4 of the array now has a value of 2

//now i will fill the array with values 1-12 and print them out

for (i=0; i<12; i++)

{

pointerValue2[i] = i+1;

}

cout<<"the array values are: ";

for (i=0; i<12; i++)

{

cout << " ,"<<pointerValue2[i];

}

cout<<"\n";

//prints out 1,2...12

// before i could not make the size the array a variable i had to declare it const but now i can

int arraySize3; // i did 3 to stay consistent

cout<<"Enter the number of elements you want your Array to have ";

cin >> arraySize3; cout<<endl;

int \*pointerValue3 = new int[arraySize3]; //sytax for dynamically alocating an array of size x

//now i will fill the array with values 1-x values and print them out

for (i=0; i<arraySize3; i++)

{

pointerValue3[i] = i+1;

}

cout<<"the array values are: ";

for (i=0; i<arraySize3; i++)

{

cout << " ,"<<pointerValue3[i];

}

// if you input 15 output will be 1, 2, 3, ...15

cout<<endl;

//now i must explicitly tell the computer to free the memory for space

delete pointerValue;

pointerValue = 0;

delete pointerValue2;

pointerValue2 = 0;

delete pointerValue3;

pointerValue3 = 0;

return 0;

}