CSCI 152 Programming Fundamentals II Spring 2018

Dr. Creider Program to illustrate type concepts-1

/\* CSCI 152 Spring 2018

program to demonstrate some type concepts and I/O

program will enter and display one number for signed and unsigned short type

Run the program several times with different input values

Examine the results produced by the statements to determine what happened

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#include<iostream>

using namespace std;

int main()

{

short stop=1, num1, num1Plus1, num1Minus1; // declare a signed variable of 2 bytes: range -32768 to 32767

unsigned short num2, num2Plus1, num2Minus1; // declare an unsigned variable of 2 bytes: range 0 to 65535

while(stop)

{

// display a message to the user

cout<<"enter a number to be stored in a signed short variable ";

// input a value and store it in the variable num1

cin>>num1;

// display the number entered

cout<<"the signed short number you entered was "<<num1<<endl;

num1Plus1 = num1+1;

cout<<"\nthe signed short number you entered after adding 1 to the number in cout statement "<<num1+1<<endl;

cout<<"the signed short number you entered after adding 1 to the number "<<num1Plus1<<endl;

num1Minus1 = num1-1;

cout<<"\nthe signed short number you entered after subtracting 1 from the number in cout statement "<<num1-1<<endl;

cout<<"the signed short number you entered after subtracting 1 from the number "<<num1Minus1<<endl;

num2 = num1; // implied type conversion

cout<<"\nvalue of num2 after implied type conversion "<<num2<<endl;

cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

cout<<"\nenter a number to be stored in an unsigned short variable ";

// input a value and store it in the variable num2

cin>>num2;

// display the number entered

cout<<"the unsigned short number you entered was "<<num2<<endl;

num2Plus1 = num2+1;

cout<<"the unsigned short number you entered after adding 1 to the number in cout statement "<<num2+1<<endl;

cout<<"\nthe unsigned short number you entered after adding 1 to the number "<<num2Plus1<<endl;

num2Minus1 = num2-1;

cout<<"\nthe unsigned short number you entered after subtracting 1 from the number in cout statement "<<num2-1<<endl;

cout<<"the unsigned short number you entered after subtracting 1 from the number "<<num2Minus1<<endl;

num1 = num2; // implied type conversion

cout<<"\nvalue of num1 after implied type conversion "<<num1<<endl;

cout<<"\nTo stop this program enter 0 else enter any other short number ";

cin>>stop;

}

// pause the program to see the results

system("pause"); // this is a command to the Windows operating system

//return 0; // statement not necessary in Bloodshed compiler

}