1050 Programming Logic

Lab 3 (20 points total)

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*Paste your code and screenshots below.*

1. Compare and contrast the if single-selection statement and the while repetition statement.
   * 1. How are these two statements similar?

The if single-selection statement and while repetition statement are similar in that they both evaluate if the statement is true or false prior to executing.

* + 1. How are they different?

The if single-selection statement and while repetition statement are different in that the if single-selection statement only executes when the statement is true. The while repetition statement loops and the line of code repeatedly executes until the condition is met, and then the loop no longer repeats.

(2 Points).

1. Declare two int variables:
   * 1. speedLimit and speed.
     2. Assign values speedLimit=35 and speed=42.
     3. Write an if statement that displays “SLOW NOW” if speed is greater than speedLimit. (2 points)

1. if-else statement
   * 1. Write a program that declares and assigns a value to a Boolean variable called isTrue.
     2. Use a condition to output “It is True!” or “It is False!” based on the assigned value.
     3. Paste your code and screenshots of your program running with both true and false values (3 points)

bool isTrue;

isTrue = true;

if (isTrue)

{

Console.WriteLine("It is true!");

}

else

{

Console.WriteLine("It is false!");

A screenshot of a computer

Description automatically generated }

bool isTrue;

isTrue = false;

if (isTrue)

{

Console.WriteLine("It is true!");

}

else

{

Console.WriteLine("It is false!");

A screenshot of a computer

Description automatically generated with medium confidence }

1. if statement
   * 1. Write a program that converts a Fahrenheit temperature to Celsius.
     2. The user should be able to input the temperature at the Command prompt and it should output the temperature.
     3. In addition, you should output “It is cold” if the Fahrenheit value is less that 40 or it should output “It is hot” if the temperature is over 90
     4. ***Code to read a value: double fahrenheit = Convert.ToDouble(Console.ReadLine());***

***Code to convert: celsius = fahrenheit - 32d) \* 5d/9d;*** (4 points).

1. **Write a while loop** that outputs values 1-10. Increment by 1. (3 points)

1. **Write a while loop** that outputs values 60 to 20. Decrement by 1.
   1. points)

1. **Create a while** that outputs values 10-20.
   1. points)