**SELECTION CONTROL STRUCTURES PREVIEW (PRACTICE WRITING IF STATEMENTS AND IF-ELSE STATEMENTS)**

// Program HiScore **(Hiscore.cpp)** reads and prints three test scores.

// The largest value of the three is printed with an appropriate message.

// Assumption: The scores are unique.

#include <iostream>

using namespace std;

int main ()

{

int test1Score; int test2Score; int test3Score;

cout << "Enter score for test 1; press return." << endl;

cin >> test1Score;

cout << "Enter score for test 2; press return." << endl;

cin >> test2Score;

cout << "Enter score for test 3; press return." << endl;

cin >> test3Score;

cout << "The three test scores are: " << endl;

cout << test1Score << endl; cout << test2Score << endl; cout << test3Score << endl;

/\* TO BE FILLED IN \*/

1. Fill in the missing statement(s) in program HiScore so that the largest of the three input values (scores) is printed and labeled as the highest score. You may use a nested If statement or a series of If statements. For example, if test2Score with a value of 98 is the largest, your output might look as follows:

The value for test 2 is the highest; it is 98.

You message may be different, but it must include the largest value and which test had that value. Run your program three times using the sets of input values listed below:

Input values What is printed

100 80 70

70 80 100

80 100 60

return 0;

}

/\*Program LowScore (**LowScore.cpp**) reads data from an input file and prints three test scores. The lowest value of the three is printed with an appropriate message.

Assumption: You are to create a data file with three scores and that the three scores are unique.\*/

#include <iostream>

using namespace std;

int main ()

{

int test1Score;

int test2Score;

int test3Score;

/\* cout << "Enter score for test 1; press return." << endl;

cin >> test1Score;

cout << "Enter score for test 2; press return." << endl;

cin >> test2Score;

cout << "Enter score for test 3; press return." << endl;

cin >> test3Score;\*/

/\*Write code to open and read data from a file\*/

/\*Validate the input file stream to check if data file has been opened and that the data matches the variables in which they will be stored. \*/

cout << "The three test scores are: " << endl;

cout << test1Score << endl;

cout << test2Score << endl;

cout << test3Score << endl;

/\*Write logical expression i.e., if-then-else statements to determine the lowest score and display the value with an appropriate message.\*/   
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// Program activity.cpp outputs an appropriate activity for a given temperature

#include <iostream>

using namespace std;

int main()

{

int temperature; // The outside temperature

// Read and echo temperature

cout << "Enter the outside temperature:" << endl;

cin >> temperature;

cout << "The current temperature is " << temperature << endl;

// Print activity

cout << "The recommended activity is ";

if (temperature > 85)

cout << "swimming." << endl;

else if (temperature > 70)

cout << "tennis." << endl;

else if (temperature > 32)

cout << "golf." << endl;

else if (temperature > 0)

cout << "skiing." << endl;

else

cout << "dancing." << endl;

return 0;

}

Chapter#4: Algorithm Workbench (pg.217) – more practice with selection control structures

1. Write an if statement that assigns 100 to x when y is equal to 0.
2. Write an if/else statement that assigns 0 to x when y is equal to 10. Otherwise, it should assign 1 to x.
3. Using the following chart, write an if/else if statement that assigns .10, .15, or .20 to commission, depending on the value in sales.

| **Sales** | **Commission Rate** |
| --- | --- |
| Up to $10,000 | 10% |
| $10,000 to $15,000 | 15% |
| Over $15,000 | 20% |

1. Write an if statement that sets the variable hours to 10 when the flag variable minimum is set.
2. Write nested if statements that perform the following tests: If amount1 is greater than 10 and amount2 is less than 100, display the greater of the two.
3. Write an if statement that prints the message “The number is valid” if the variable grade is within the range 0 through 100.
4. Write an if statement that prints the message “The number is valid” if the variable temperature is within the range −50 through 150.
5. Write an if statement that prints the message “The number is not valid” if the variable hours is outside the range 0 through 80.
6. Assume str1 and str2 are string objects that have been initialized with different values. Write an if/else statement that compares the two objects and displays the one that is alphabetically greatest.
7. Convert the following if/else if statement into a switch statement:

if (choice == 1)

{

cout << fixed << showpoint << setprecision(2);

}

else if (choice == 2 || choice == 3)

{

cout << fixed << showpoint << setprecision(4);

}

else if (choice == 4)

{

cout << fixed << showpoint << setprecision(6);

}

else

{

cout << fixed << showpoint << setprecision(8);

}