

Sample Midterm Questions

Chapters 1, 2, 3 & 4

MULTIPLE CHOICE

1. The _____ operator always follows the `cin` object, and the _____ operator follows the `cout` object.
 - a. binary, unary
 - b. conditional, binary
 - c. `>>`, `<<`
 - d. `<<`, `>>`
 - e. None of the above
2. In any program that uses the `cin` object, you must include the header file _____.
 - a) `<cmath>`
 - b) `<iomanip>`
 - c) `<cstring>`
 - d) `<iostream>`
 - e) None of the above

TRUE / FALSE

3. When reading a `string`, the only difference between using `cin` and `getline` function is that `getline` reads strings that contain spaces and tabs.

(T) rue _____ (F) alse _____

4. The statement

```
cout << setprecision(2) << dollars << endl;
```

will output 2 digits after the decimal point to the screen.

(T) rue _____ (F) alse _____

SHORT ANSWER

5. In an `if/else if` statement, what is the purpose of a trailing `else`?
6. Why are the relational operators called relational?

FIND THE ERRORS

The following program segment has error(s). Circle the error(s) and then rewrite the statement(s) to correct the error(s).

```
7. // This program averages 3 test scores.
   // It uses the variable perfectScore as a flag.
   include <iostream>
   using namespace std;

   int main()
   {
       cout << "Enter your 3 test scores and I will ";
           << "average them: ";

       int score1, score2, score3,
       cin >>score1 >> score2 >> score3;

       double average;
       average = (score1 + score2 + score3) / 3.0;

       if ( average = 100 );
           perfectScore = true;    // Set the flag variable
       else
           perfectScore = false;

       cout << "Your average is " << average << endl;

       bool perfectScore;
       if (perfectScore);
       {
           cout << "Congratulations!\n";
           cout << "That's a perfect score.\n";
           cout << "You deserve a pat on the back!\n";

       return 0;
   }
```

PROGRAMMING

8. Write a program that prompts the user for their quarterly water bill for the last four *quarters*. The program should find and output their average *monthly* water bill. If the average bill exceeds \$75, the output should include a message indicating that too much water is being used. If the average bill is at least \$25 but no more than \$75, the output should indicate that a typical amount of water is being used. Finally, if the average bill is less than \$25, the output should contain a message praising the user for conserving water. Use the sample run below as a model for your output.

Sample Run 1:

```
Please input your water bill for quarter 1:
300
Please input your water bill for quarter 2:
200
Please input your water bill for quarter 3:
225
Please input your water bill for quarter 4:
275
Your average monthly bill is $83.33. You are using excessive amounts
of water
```

Sample Run 2:

```
Please input your water bill for quarter 1:
100
Please input your water bill for quarter 2:
150
Please input your water bill for quarter 3:
75
Please input your water bill for quarter 4:
125
Your average monthly bill is $37.50. You are using a typical amount of
water
```