1. How is data stored in a computer?
   a. In binary representation in the computer's memory
   b. In English in the computer's memory
   c. In binary representation in the processor
   d. In some language in the computer's memory

2. What is a reserved word in a particular programming language?
   a. A word reserved by the operating system so that it can control the program.
   b. A word for the programmer to use as a variable name.
   c. A word that has specific meaning to the compiler and cannot be used by any other identifier in the program.

3. Which of the following statements is true about data used in your program?
   a. They are stored in variables that are destroyed when your program finishes.
   b. They can be stored in files for permanent storage even after your program terminates.
   c. Data stored in your program can have different types and hence occupy different sizes in memory.
   d. All of the above
   e. Both a and b only

4. What is the value of x after executing the following statements:

```c
int x;
x = 5 % 4 + 23 * 2 - 3.8/2;
```
   a. 45
   b. 46
   c. 47
   d. None of the above

5. What is the value of x after executing the following statements:

```c
int x;
x = 5.4 % (4 + 23) * (2 - 3.8))/2;
```
   a. 45
   b. 46
   c. -4
   d. error
6. What is the output after executing the following statements:

```cpp
double d = 1.23335;
cout << fixed << showpoint;
cout << setprecision(2) << d << endl;
```

a. 1.23335
b. 1.2334
c. 1.23
d. 1.2

7. What is the output after executing the following statements:

```cpp
int x = 1234;
cout << setw(6) << x << endl;
```

a. 1234<b><b>
b. <b><b>1234
c. <b>1234<b>

Note: <b> stands for a blank space.

8. In what namespace is cout present?
   a. iomanip
   b. iostream
   c. std
   d. ostream

9. What data type is "\n"?
   a. string
   b. int
   c. double
   d. float
   e. char

10. Find the compile-time errors in the following program:
```cpp
int main() {
    int x = 5;
y = x * 5;
cout << y;
return 0;
}
```

a. illegal return code
b. undeclared identifier
c. missing semicolon
d. none of the above
11. Assume that the input stream from the keyboard is as follows;

```
C++ is great!
```

What is the output of the following code?

```cpp
string myString;
cin >> myString;
char c = cin.get();
cout << c;
```

a. `<b>`
b. `C++`
c. `+`
d. `i`

Note: `<b>` stands for a blank space.

12. Assume that the input stream from the keyboard is as follows;

```
C++ is great!
```

What does the following code store in myString?

```cpp
string myString;
getline(cin, myString);
```

a. `C++ is great!`
b. `C++`
c. `C++<b>`
d. `C++<b>is`

Note: `<b>` stands for a blank space.

13. What is the value of the variable `Y` after the following code is executed?

```cpp
int X = 9, Y = 5, Z = 1;
Y = ++Z * X--;
```

a. 9
b. 8
c. 16
d. 18
14. What is the value of the variable Y after the following code is executed?

```java
int X = 9, Y = 5, Z = 1;
Y *= X - (5 * Z); // Note the "*=
```

a. 40  
b. 5  
c. 20  
d. 4

For the next 3 questions, suppose the (file) input stream In contains the following 5 lines of data (there's one tab character between columns and a newline character immediately after the last character on each line):

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>89</td>
<td>249</td>
<td>4</td>
<td>Norris</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>30</td>
<td>9</td>
<td>AJ</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>99</td>
<td>87</td>
<td>Derring</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>34</td>
<td>82</td>
<td>Smyth</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>23</td>
<td>7</td>
<td>Shanks</td>
<td></td>
</tr>
</tbody>
</table>

What is the value of each of the indicated variables after the execution of the following program segment?

```java
int    Zero = 0, One = 1, Two = 2, Three = 3, Four = 4;
string First = "Vawter", Second = "Eggleston", Third = "Schultz";

In >> Zero >> One >> One;
In.ignore(100, 'n');
In.ignore(100, 'n');
In >> Three >> Four >> Zero;
In.ignore(100, 't');
In.ignore(100, 't');
In >> First;
```

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>One</td>
<td>89</td>
<td>4</td>
<td>249</td>
</tr>
<tr>
<td>16</td>
<td>Four</td>
<td>99</td>
<td>30</td>
<td>78</td>
</tr>
<tr>
<td>17</td>
<td>First</td>
<td>&quot;34&quot;</td>
<td>&quot;AJ&quot;</td>
<td>&quot;Derring&quot;</td>
</tr>
</tbody>
</table>
For the next 3 questions, assume the following variable declarations and initializations:

```c
bool Potter = true, Voldemort = false;
int  a = 3, b = 1, c = 3;
```

Determine the value assigned by each of the following statements to the relevant Boolean variable, or if there's something (syntactically) wrong with the expression; choose from the following answers:

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>syntax error</th>
<th>d</th>
<th>cannot be determined</th>
</tr>
</thead>
</table>

18. Potter = !Potter || !Voldemort;

19. Potter = !( !(b + a < c) || c + b == a );

20. Potter = (b > a) || (c > 0) && (a > b);