Quiz 2 Solutions

Q1 (1 pt): If grade has the value of 60, what will the following code display?

```cpp
if ( grade >= 60 )
    cout << "Passed";
```

a. nothing.
b. 60
c. Passed
d. cout << "Passed";

ANS: c. Passed.

Q2 (2 pt): What is wrong with the following while loop?

```cpp
while ( sum <= 1000 )
    sum = sum - 30;
```

a. The parentheses should be braces.
b. Braces are required around sum = sum - 30;.
c. There should be a semicolon after while ( sum <= 1000 ).
d. sum = sum - 30 should be sum = sum + 30 or else the loop may never end.

ANS: d. sum = sum - 30 should be sum = sum + 30 or else the loop may never end.

Q3 (1 pt): An uninitialized local variable contains:

a. The value last stored in the memory location reserved for that variable.
b. No value.
c. A value of zero.
d. A randomly assigned value.

ANS: a. The value last stored in the memory location reserved for that variable.

Q4 (2 pt): What is the final value of x after performing the following operations?

```cpp
int x = 21;
double y = 6;
double z = 14;
y = x / z;
x = 5.5 * y;
```

a. 8.25.
b. 5.5.
c. 5.
d. 8.

ANS: d. 8.

Q5 (1 pt): Which of the following for headers is not valid?

a. ```cpp
for ( int i = 0; i < 10; i++ )
```
b. ```cpp
int i = 0;
for ( ; i < 10; i++ )
```
c. ```cpp
for ( int i = 0; int j = 5; ; i++ )
```
d. All of the above.

ANS: c. ```cpp
for ( int i = 0; int j = 5; ; i++ )
```

Q6 (1 pt): switch can be used to test:

a. int constants.
b. float constants.
c. string constants.
d. all types of constants.

ANS: a. int constants.
Q7 (1 pt): In C++, the condition \( 4 > y > 1 \):
- a. Evaluates correctly and could be replaced by \( 4 > y && y > 1 \).
- b. Does not evaluate correctly and should be replaced by \( 4 > y && y > 1 \).
- c. Evaluates correctly and could not be replaced by \( 4 > y && y > 1 \).
- d. Does not evaluate correctly and should not be replaced by \( 4 > y && y > 1 \).

ANS: b. Does not evaluate correctly and should be replaced by \( 4 > y && y > 1 \).

Q8 (1 pt): The OR (||) operator:
- a. Has higher precedence than the AND (&&) operator.
- b. Stops evaluation upon finding one condition to be true.
- c. Associates from right to left.
- d. Is a ternary operator.

ANS: b. Stops evaluation upon finding one condition to be true.

Q9 (1 pt): The function prototype
\[
\text{double mySqrt( int x );}
\]
- a. Declares a function called mySqrt which takes an integer as an argument and returns a double.
- b. Defines a function called double which calculates square roots.
- c. Defines a function called mySqrt which takes an argument of type x and returns a double.
- d. Declares a function called mySqrt which takes a double as an argument and returns an integer.

ANS: a. Declares a function called mySqrt which takes an integer as an argument and returns a double.

Q10 (1 pt): Which of the following is not true of static local variables?
- a. They are accessible outside of the function in which they are defined.
- b. They retain their values when the function in which they are defined terminates.
- c. They are initialized to zero if not explicitly initialized by the programmer.
- d. They can be of type int.

ANS: a. They are accessible outside of the function in which they are defined.

Q11 (1 pt): What happens when two blocks, one nested inside of the other, both declare variables with the same identifier? (Assume that the outer block declares its variable before the opening left-brace of the inner block.)
- a. A syntax error occurs.
- b. The “outer” variable is hidden while the “inner” variable is in scope.
- c. The “outer” variable is irretrievably lost when the “inner” variable is declared.
- d. The “inner” declaration is ignored and the “outer” variable has scope even inside the inner block.

ANS: b. The “outer” variable is hidden while the “inner” variable is in scope.

Q12 (1 pt): The inline keyword:
- a. Increases function-call overhead.
- b. Can reduce a function’s execution time but increase program size.
- c. Can decrease program size but increase the function’s execution time.
- d. Should be used with all frequently used functions.

ANS: b. Can reduce a function’s execution time but increase program size.

Q13 (2 pt): When an argument is passed by-value, changes in the called function \__________ affect the original variable’s value; when an argument is passed call-by-reference, changes in the called function \__________ affect the original variable’s value.
- a. Do not, do.
- b. Do not, do not.
- c. Do, do.
- d. Do, do not.

ANS: a. Do not, do.
Q14 (1 pt): An array is not:
   a. A consecutive group of memory locations.
   b. Subscripted by integers.
   c. Declared using braces, [].
   d. Made up of different data types.

ANS: d. Made up of different data types.

Q15 (1 pt): Which statement would be used to declare a 10-element integer array c?
   a. array c = int[ 10 ];
   b. c = int[ 10 ];
   c. int array c[ 10 ];
   d. int c[ 10 ];

ANS: d. int c[ 10 ];

Q16 (1 pt): Referencing elements outside the array bounds:
   a. Can result in changes to the value of an unrelated variable.
   b. Is impossible because C++ checks to make sure it does not happen.
   c. Is a syntax error.
   d. Enlarges the size of the array.

ANS: a. Can result in changes to the value of an unrelated variable.

Q17 (1 pt): Unless otherwise specified, entire arrays are passed _________ and individual array elements are passed _________.
   a. By value, by reference.
   b. By reference, by value.
   c. By value, by value.