Homework 2

1) What value is stored in flag after this code completes?

```c
string name1 = "Jones";
string name2 = "Petersen";
bool flag = (name1 < name2);
```

a) true  
b) false  
c) undefined  
d) syntax error

2) What is wrong with the following statement:

```c
bool flag = "Jones" < "Petersen";
```

a) Two string literals cannot be compared.  
b) Type coercion in boolean variables is not allowed.  
c) Only strings with all lower-case letters can be compared.  
d) There is nothing wrong with this statement.

3) Given the following code fragment and the fact that the "open" fails, does the body of the while loop ever get executed?

```c
int x;
ifstream In;
In.open("text.dat"); // This fails!
In >> x;
while (In)
{
    // the body of the while loop
}
```

a) Yes  
b) No  
c) Cannot be determined from the information given

4) Suppose that I have written a program that simulates racing around the Daytona Speedway 200 times. What type of loop design would you expect to see in my program?

a) Event-Controlled Loop  
b) Sentinel-Controlled Loop  
c) Count-Controlled Loop
5) What values of i and j are output in this code:

```cpp
void funcA (int x, int& y);
int main()
{
    int i = 5;
    int j = 10;

    funcA(i, j);
    count << i << j << endl;
}

void funcA(int x, int& y)
{
    x = 40;
    y = 100;
}
```

a) i = 40, j = 100  
b) i = 5, j = 100  
c) i = 40, j = 10  
d) i = 5, j = 10

6) Which of the following parameter passing mechanisms can be used to pass information into a function as well as return information from the function?

a) Pass by value  
b) Pass by reference  
c) Pass by constant reference  
d) Using the return statement

7) Which of the following best describes the direction of data flow in the function below?

```cpp
void func(int& val)
{
    val = val * 23;
}
```

a) One way – into the function  
b) Two way – into and from the function  
c) One way – from the function  
d) None of the above
8) What is the difference between formal and actual parameters?
   a) Formal parameters are the variables defined in the parameter list of the called function. Actual parameters are the variables and expressions passed in by the calling functions.
   b) Actual parameters are the variables defined in the parameter list of the called function. Formal parameters are the variables and expressions passed in by the calling functions.
   c) Formal and Actual parameters are the same. They refer to the same memory location.
   d) None of the above

9) Which of the following is a **Logic** error for the following code?

```cpp
int A[5];
for( int i = 0; i <= 5; i++)
    cout << test[i];
```

   a) Outputting data from an array
   b) Accessing data that has not been initialized
   c) Accessing data that is out of bound of the array
   d) Using a loop to access array elements

10) Which of the following copies from an array x to an array y, both of size 10?

   a) ```cpp
      int j = 1;
      while( j < 10)
      {
          y[j] = x[j];
          j = j + 1;
      }
   ```
   b) ```cpp
      y = x;
   ```
   c) ```cpp
      for( int j = 0; j < 10; j++)
          y[j] = x[j];
   ```
   d) All of the above