1) **Answer the following questions on Conditional Logic:**

a) Explain the difference between a *single* conditional statement, a *double* conditional statement and a *multiple* conditional statement.

b) Explain the *rules* that are followed when evaluating single, double, and multiple conditional logic.
c) In which conditional structure is the *else* statement required and in which conditional structure is the *break* statement required?

d) What constitutes a *true* conditional expression in C++?

e) What type of conditional structure is the *switch* statement and under what scenario can it be used?

f) Explain the *rules* followed when evaluating the logic of a switch statement.
2) **Identify and correct the errors in each of the following code segments:**

a) if ( age >= 65 );
   cout << “Age is greater than or equal to 65” << endl;
else
   cout << “Age is less than 65” << endl;

b) if ( age >= 65 )
   cout << “Age is greater than or equal to 65” << endl;
else;
   cout << “Age is less than 65” << endl;

c) if quarters > 0 then cout << quarters << “ quarters”;

d) if ( 1 + x > 12 )
   y = y + x
   if ( x = 1 )
      y++;
else
   if ( x = 2 )
      y + 2 = y

e) if ( input == “N” || input == “NO” )
   cout >> “NO!”
3) **Explain the difference between the following two code segments:**

a) 
   ```
   s = 0;
   if (x > 0)
       s++;
   if (y > 0)
       s++;
   s=0;
   if (x > 0)
       s++;
   else
       if (y > 0)
           s++;
   ```

4) **What do the following expressions evaluate to when x > 0 and y < 0:**

   ```
   !(x > 0 && y > 0)
   !(x != 0 || y != 0)
   ```

   *Note: the! symbol represents logical negation in C++ (i.e. logical not) and converts the expression to the opposite result.*
5) State the output for each of the following code segments when:
x = 9 and y = 11 and when x = 11 and y = 9.

```
if (x < 10)
if (y > 10)
cout << "*****",
else
    cout << "#####",
cout << "$$$$$",

if (x < 10) {
  if (y > 10)
    cout << "*****",
} else {
  cout << "#####",
  cout << "$$$$$",
}
```