

**WIX1002 Fundamentals of Programming
Tutorial 3 Flow of Control (Selection)**

1. Write statements for each of the following

- Determine whether $3 \times 8 = 27$.
- Determine whether an input integer is an odd number or even number.
- Determine whether a character is a capital letter.
- Display two strings in alphabetical order ignoring their case.
- A switch statement that displays Sunday, Monday, ..., Saturday if the input is 0, 1, ..., 6.

a) `System.out.println (3 * 8 == 27)`

b) `if (input % 2 == 0)`

`System.out.println("Even number");`

`else`

`System.out.println("Odd number");`

c. `System.out.println(c == Character.toUpperCase(c));`

d. `s1 = s1.toLowerCase();`

`s2 = s2.toLowerCase();`

`if (s1.compareTo(s2) <= 0)`

`System.out.println(s1 + " " + s2);`

`else`

`System.out.println(s2 + " " + s1);`

e) `switch (day) {`

`Case 0 :`

`System.out.println("Sunday");`

`Case 1 :`

`System.out.println("Monday");`

`Case 2 :`

`System.out.println("Tuesday");`

`Case 3 :`

`System.out.println("Wednesday");`

System.out.println("Wednesday");

Case 4 :

System.out.println("Thursday");

Case 5 :

System.out.println("Friday");

Case 6 :

System.out.println("Saturday");

}

2. Correct the error for the following statements.

a.

```
if (num1 = num2)
    System.out.println("Number 1 is equal to number 2.");
```

a. if (num1 == num 2)

b.

```
if (x > y > z)
    System.out.println("x is the largest number");
```

b. if (x > y && y > z)

c.

```
String s1, s2;
if (s1==s2)
    System.out.println("They are equal strings.");
else (s1!=s2)
    System.out.println("They are not equal strings.");
```

c. if (s1.compareTo(s2) == 0)

else

d.

```
if x>0 or y>0;
    System.out.println("Either x or y is positive");
```

if (x > 0 || y > 0)

3. Write the output for the following statements when x=9 and y=10

a.

```
if(x < 10)
if(y > 10)
System.out.println("*****");
else
System.out.println("#####");
System.out.println("$$$$$");
```

a.
 #####
 \$ \$ \$ \$ \$

b.

```
if(x < 10) {
if(y < 10)
System.out.println("*****");
else{
System.out.println("#####");

System.out.println("$$$$$");
}}
```


 \$ \$ \$ \$ \$

c.

```
if(x < 10) {
if(y < 10)
System.out.println("*****");
System.out.println("#####");
}
else {
System.out.println("$$$$$");
}
```

#####

d.

```
if(x > 10) {
if(y > 10)
System.out.println("*****");
System.out.println("#####");
else
System.out.println("$$$$$");
}
```

4. Write the java statements that used the if statement to find the biggest number among three given integers.

```
if (num1 > num2 && num2 > num3 || num1 > num3 && num3 > num2 )
    System.out.println(num1);
else if (num2 > num1 && num1 > num3 || num2 > num3 && num3 > num1)
    System.out.println(num2);
else if (num3 > num1 && num1 > num2 || num3 > num2 && num2 > num1)
```

```
System.out.println(num1);  
else if (num3 > num1 && num1 > num2 || num3 > num2 && num2 > num1)  
    System.out.println(num3);
```

5. Write the java statements that determine whether the Leap year. A Leap year is divisible by 4 but not by 100. However, a Leap year is also divisible by 400.

```
System.out.println( year % 4 == 0 && year % 100 != 0  
                    && year % 400 == 0 )
```