

**Program 1 :** Write a code which will contain 2 numbers. Use the following operators on it.

1. less than (<)
2. greater than (>)
3. less than or equal to (<=)
4. greater than or equal to (>=)
5. equivalent (==)
6. not equivalent (!=)

**Program 2 :** Write a code which will contain one number 'num'. Use the following operators on it.

1. num >>>= 2
2. num <<= 3
3. num ^= 2
4. num = ++num
5. num = ~num

**Program 3 :** What will be the output of the statement if i=5, j=4

(i++ >= j++) && (--j < i++)  
(--i < j--) || (j++ >= ++i)

**Program 4 :** Write the binary number of the following decimal numbers (Do it on paper/notebook with proper explanation)

1.56, 2.34, 3.65, 4.103, 5.97

**Program 5 :** Write 2 classes as Pune, Mumbai. Add the following things :

```
class Pune : static variable : int covidActiveCasses
            instance variable : int totalCasses
            static method : noCorona
            instance method : lockdown
                           noLockdown
class Mumbai : static variable : int covidActiveCasses
               instance variable : int totalCasses
               static method : noCorona
               instance method : lockdown
                               noLockdown
```

Increment both the variables in all methods, display the output and observe the changes.  
Draw JVM architecture for the same.