1) What will be the output of the following program?

```
public class IncrementDecrementQuiz

public static void main(String[] args)

int i = 11;

i = i++ + ++i;

system.out.println(i);

}
```

Answer: 24

```
Initially, i=11,

i = i++++i

i = (i \text{ is used before increment}) + (i \text{ is used after increment})

i = 11(i=12) + 13(i=13)

i = 11 + 13 = 24
```

2) Guess the output of the following program?

```
public class IncrementDecrementQuiz
 2
      {
 3
          public static void main(String[] args)
 4
           {
 5
               int a=11, b=22, c;
 6
 7
               c = a + b + a++ + b++ + ++a + ++b;
 8
               System.out.println("a="+a);
 9
               System.out.println("b="+b);
System.out.println("c="+c);
10
11
12
13
```

Answer:

a=13

b=24

c=103

Given, a=11, b=22

c = a + b + a++ + b++ + ++a + ++b

c = 11 + 22 + (a is used before increment) + (b is used before increment) + (a is used after increment) + (b is used after increment)

c = 11 + 22 + 11(a=12, b=22) + 22(a=12, b=23) + 13(a=13, b=23) + 24(a=13, b=24)

c = 11 + 22 + 11 + 22 + 13 + 24 = 103 and a=13, b=24

```
public class IncrementDecrementQuiz

public static void main(String[] args)

int i=0;

i = i++ - --i + ++i - i--;

system.out.println(i);

y

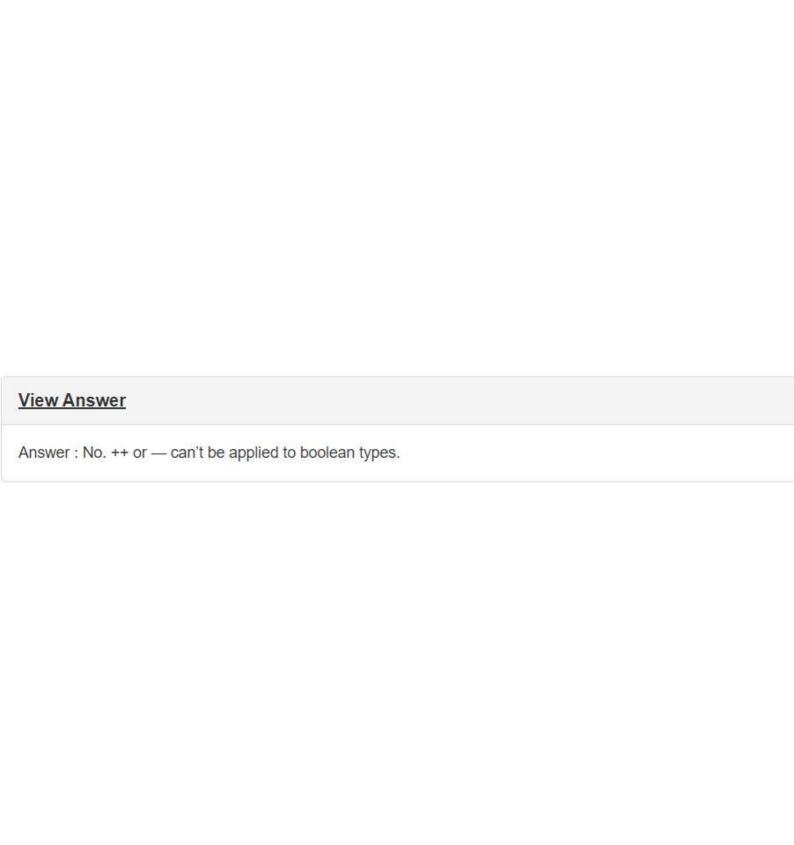
}
```

Answer: 0

```
initially, i=0 i = i++--i+++i-i- i = (i \text{ is used before increment}) - (i \text{ is used after decrement}) + (i \text{ is used after increment}) - (i \text{ is used before decrement}) i = 0(i=1) - 0(i=0) + 1(i=1) - 1(i=0) i = 0 - 0 + 1 - 1 = 0
```

4) Is the below program written correctly?

```
public class IncrementDecrementQuiz
 1
 2
         public static void main(String[] args)
 3
 4
             boolean b = true;
 5
 6
             b++;
 7
 8
             System.out.println(b);
9
10
11
```



5) What will be the output of the below program?

```
public class IncrementDecrementQuiz
 1
 2
          public static void main(String[] args)
 3
 4
               int i=1, j=2, k=3;
 5
 6
               int m = i-- - j-- - k--;
 7
 8
               System.out.println("i="+i);
 9
               System.out.println("j="+j);
System.out.println("k="+k);
10
11
               System.out.println("m="+m);
12
13
14
     }
```

```
Answer: i=0
```

j=1 k=2

m=-4

```
Given, i=1, j=2, k=3

m = i - j - k - k

m = (i is used before decrement) (i is used before decrement) (k is used
```

m = (i is used before decrement) – (j is used before decrement) – (k is used before decrement)

$$m = 1(i=0) - 2(j=1) - 3(k=2)$$

m = 1 - 2 - 3

m = -4 and i=0, j=1, k=2