Quiz On Increment And Decrement Operators : i++, ++i, i- -, – -i
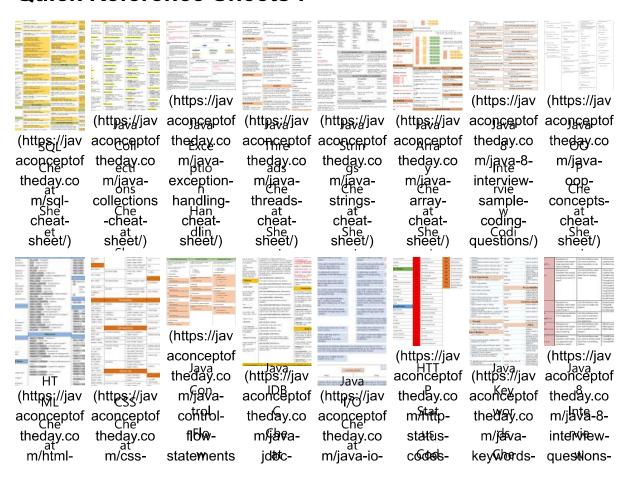
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Before solving the quiz questions, remember the following four rules regarding Java increment and decrement operators,

1. Post Increment (i++) : Current value of 'i' is used and then it is incremented by 1.

2. Pre Increment (++i) : First 'i' is incremented by 1 and then it's value is used.

3. Post Decrement (i--) : Current value of 'i' is used and then it is decremented by 1.

4. Pre Decrement (--i) : First 'i' is decremented by 1 and then it's value is used.

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

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

View Answer

Answer : 24

Initially, i=11,
i = i++ + ++i
i = (i is used before increment) + (i is used after increment)
i = 11(i=12) + 13(i=13)
i = 11 + 13 = 24

2) Guess the output of the following program?

```
1   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
9           System.out.println("a="+a);
10          System.out.println("b="+b);
11          System.out.println("c="+c);
12      }
13  }
```

View Answer

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

Also Read : Java Strings Quiz (https://javaconceptoftheday.com/java-strings-quiz-questions-and-answers/)

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

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int i=0;
6
7           i = i++ - --i + ++i - i--;
8
9           System.out.println(i);
10
11      }
12  }
```

View Answer

Answer : 0

initially, i=0
i = i++ − −−i + ++i − i−−
i = (i is used before increment) − (i is used after decrement) + (i is used after increment) − (i 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?

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

View Answer

Answer : No. ++ or −− can't be applied to boolean types.

Also Read : 110+ Java Interview Programs With Solutions
(https://javaconceptoftheday.com/java-interview-programs-with-solutions/)

- $i = i++ + ++i$
- $c = a + b + a++ + b++ + ++a + ++b$
- $i = i++ - --i + ++i - i--$
- $m = i-- - j-- - k--$
- $--b - ++a + ++b - --a$
- $k = i-- - i++ + --j - ++j + --i - j-- + ++i - j++$
- $int\ j = --(i++)$
- $p = --m * --n * n-- * m--$
- $a = a++ + ++a * --a - a--$
- $int\ a = 11++$
- $m++ / ++n * n-- / --m$
- $i = --x + y++ - z-- - --z + ++y - --x + y-- - --x$

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

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

View Answer

Answer :
i=0
j=1
k=2
m=-4

Given, i=1, j=2, k=3
m = i-- - j-- - k--
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

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

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int a=1, b=2;
6
7           System.out.println(--b - ++a + ++b - --a);
8       }
9   }
```

View Answer

Answer : 0

Given, a=1 and b=2,
–b – ++a + ++b – –a
= (b is used after decrement) – (a is used after increment) + (b is used after increment) – (a is used after decrement)
= 1(a=1, b=1) – 2(a=2, b=1) + 2(a=2, b=2) – 1(a=1, b=2)
= 1 – 2 + 2 – 1 = 0

Also Read : Java Threads Interview Questions & Answers
(https://javaconceptoftheday.com/java-threads-interview-questions-and-answers/)

7) What will be the value of i, j and k in the below program?

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int i=19, j=29, k;
6
7           k = i-- - i++ + --j - ++j + --i - j-- + ++i - j++;
8
9           System.out.println("i="+i);
10          System.out.println("j="+j);
11          System.out.println("k="+k);
12      }
13  }
```

View Answer

Answer :

i=19

j=29

k=-20

Given, i=19 and j=29,

k = i– – i++ + –j – ++j + –i – j– + ++i – j++

k = (i is used before decrement) – (i is used before increment) + (j is used after decrement) – (j is used after increment) + (i is used after decrement) – (j is used before decrement) + (i is used after increment) – (j is used before increment)

k = 19(i=18, j=29) – 18(i=19, j=29) + 28(i=19, j=28) – 29(i=19, j=29) + 18(i=18, j=29) – 29(i=18, j=28) + 19(i=19, j=28) – 28(i=19, j=29)

k = 19 – 18 + 28 – 29 + 18 – 29 + 19 – 28

k = -20 and i=19, j=29

8) What is wrong with the below program? Why it is showing compilation error?

```
1    public class IncrementDecrementQuiz
2    {
3        public static void main(String[] args)
4        {
5            int i = 11;
6
7            int j = --(i++);
8        }
9    }
```

View Answer

Answer : Because, ++ or — can't be nested [–(i++)].

Also Read : Java Exception Handling Interview Questions & Answers (https://javaconceptoftheday.com/java-exception-handling-interview-questions-and-answers/)

9) Guess the value of *p* in the below program?

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int m = 0, n = 0;
6
7           int p = --m * --n * n-- * m--;
8
9           System.out.println(p);
10      }
11  }
```

View Answer

Answer : 1

Given, m=0 and n=0

p = –m * –n * n– * m–

p = (m is used after decrement) * (n is used after decrement) * (n is used before decrement) * (m is used before decrement)

p = -1(m=-1, n=0) * -1(m=-1, n=-1) * -1(m=-1, n=-2) * -1(m=-2, n=-2)

p = -1 * -1 * -1 * -1 = 1

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

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int a=1;
6
7           a = a++ + ++a * --a - a--;
8
9           System.out.println(a);
10      }
11  }
```

View Answer

Answer : 5

Given a=1,

a = a++ + ++a * –a – a–

a = (a is used before increment) + (a is used after increment) * (a is used after decrement) – (a is used before decrement)

a = 1(a=2) + 3(a = 3) * 2(a=2) – 2(a=1)

a = 1 + 3 * 2 – 2

a = 1 + 6 – 2 = 5

11) What will be the outcome of the below program?

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int a = 11++;
6
7           System.out.println(a);
8       }
9   }
```

View Answer

Answer : Compile time error : ++ or — can't be applied to constants.

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

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int m=1010, n=1010;
6
7           System.out.println(m++ / ++n * n-- / --m);
8       }
9   }
```

View Answer

Answer : 0

m=1010 and n=1010
m++ / ++n * n— / —m
= (m is used before increment) / (n is used after increment) * (n is used before decrement) / (m is used after decrement)
= 1010(m=1011, n=1010) / 1011(m=1011, n=1011) * 1011(m=1011, n=1010) / 1010(m=1010, n=1010)
= 1010 / 1011 * 1011 / 1010 = 0

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

```
1   public class IncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int x = 001, y=010, z=100;
6
7           int i = --x + y++ - z-- - --z + ++y - --x + y-- - --x;
8
9           System.out.println("x="+x);
10          System.out.println("y="+y);
11          System.out.println("z="+z);
12          System.out.println("i="+i);
13      }
14  }
```

View Answer

Answer :
x=-2
y=11
z=98
i=-167

Given x = 001, y=010, z=100,

i = −x + y++ − z−− − −z + ++y − −x + y−− − −x

i = (x is used after decrement) + (y is used before increment) − (z is used before decrement) − (z is used after decrement) + (y is used after increment) − (x is used after decrement) + (y is used before decrement) − (x is used after decrement)

i = 0(x=0, y=10, z=100) + 10(x=0, y=11, z=100) − 100(x=0, y=11, z=99) − 98(x=0, y=11, z=98) + 12(x=0, y=12, z=98) − -1(x=-1, y=12, z=98) + 12(x=-1, y=11, z=98) − -2 (x=-2, y=11, z=98)

i = 0 + 10 − 100 − 98 + 12 − (-1) + 12 − (-2)

i = -167 and x=-2, y=11, z=98

Also Read : Java Array Interview Questions & Answers
(https://javaconceptoftheday.com/java-array-interview-questions-and-answers/)

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

```
1   public class JavaIncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int ch = 'A';
6
7           System.out.println(ch++);
8       }
9   }
```

15) What will be the outcome of the below program?

```java
1  public class JavaIncrementDecrementQuiz
2  {
3      public static void main(String[] args)
4      {
5          char ch = 'A';
6
7          System.out.println(++ch);
8      }
9  }
```

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

```java
1  public class JavaIncrementDecrementQuiz
2  {
3      public static void main(String[] args)
4      {
5          char ch = "123".charAt(1);
6
7          System.out.println(ch++ + ++ch);
8      }
9  }
```

Also Read : Java Interview Questions For Freshers
(https://javaconceptoftheday.com/top-25-simple-basic-java-interview-questions-for-freshers/)

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

```
1   public class JavaIncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           char ch = '0';
6
7           System.out.println(ch-- + --ch);
8       }
9   }
```

View Answer

94

18) What will be the outcome of the below program?

```
1   public class JavaIncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           char ch = '1'++;
6
7           System.out.println(ch);
8       }
9   }
```

View Answer

Compile time error : Invalid argument to operation ++/–

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

```
1   public class JavaIncrementDecrementQuiz
2   {
3       public static void main(String[] args)
4       {
5           int i = 0, j = 0;
6
7           System.out.println(--i * i++ * ++j * j++);
8       }
9   }
```

View Answer

1

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

```
1    public class JavaIncrementDecrementQuiz
2    {
3        public static void main(String[] args)
4        {
5            char c = 'A', C = 'a';
6
7            System.out.println(c++ * ++C);
8        }
9    }
```

View Answer

6370

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

```
1    public class JavaIncrementDecrementQuiz
2    {
3        public static void main(String[] args)
4        {
5            double d = 1.5, D = 2.5;
6
7            System.out.println(d++ + ++D);
8        }
9    }
```

View Answer

5.0

Also Read :

- Increment And Decrement Operators (https://javaconceptoftheday.com/increment-and-decrement-operators/)

- Interesting facts about ++ and — (https://www.geeksforgeeks.org/interesting-facts-increment-decrement-operators-java/)

- Core Java Quiz (https://javaconceptoftheday.com/core-java-coding-questions-which-will-test-your-java-basic-skills/)