



Exam: Semana 01

Academia Java

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Chapter 3 Operators

1. Which of the following Java operators can be used with boolean variables? (Choose all that apply.)

1. ==

2. +

3. -

4. !

5. %

6. <=

7. Cast with (boolean)

Booleans only return true or false values, so they cannot perform mathematical operations or comparisons.

2. What data type (or types) will allow the following code snippet to compile? (Choose all that apply.)

1. byte apples = 5;

2. short oranges = 10;

3. _____ bananas = apples + oranges;

1. int

2. long

3. boolean

4. double

5. Short

6. Byte

It must receive a data type less than or equal to the memory space of an int type

3. What change, when applied independently, would allow the following code snippet to compile? (Choose all that apply.)

```
3: long ear = 10;
4: int hearing = 2 * ear;
```

1. No change; it compiles as is.
2. Cast ear on line 4 to int.
3. Change the data type of ear on line 3 to short.
4. Cast 2 * ear on line 4 to int.
5. Change the data type of hearing on line 4 to short.
6. Change the data type of hearing on line 4 to long.

It must receive a data type less than or equal to the memory space of an int type

4. What is the output of the following program?

```
1: public class CandyCounter {
2:     static long addCandy(double fruit, float
vegetables) {
3:         return (int)fruit+vegetables;
4:     }
5:
6:     public static void main(String[] args) {
7:         System.out.print(addCandy(1.4, 2.4f) + "-
");
8:         System.out.print(addCandy(1.9, (float)4)
+ "-");
9:         System.out.print(addCandy((long)(int)
(short)2, (float)4)); } }
```

1. 4-6-6.0
2. 3-5-6
3. 3-6-6
4. 4-5-6
5. The code does not compile because of line 9.

The method asks to return a long and returns an int with cast

5. What are the unique outputs of the following code snippet? (Choose all that apply.)

```
int a = 2, b = 4, c = 2;
System.out.println(a > 2 ? --c : b++);
System.out.println(b = (a!=c ? a : b++));
System.out.println(a > b ? b < c ? b : 2 : 1);
```

- 1. 1
 - 2. 2
 - 3. 3
 - 4. 4
 - 5. 5
 - 6. 6
 - 7. The code does not compile.
6. Given the following code snippet, what is the value of the variables after it is executed? (Choose all that apply.)

```
int ticketsTaken = 1;
int ticketsSold = 3;
ticketsSold += 1 + ticketsTaken++;
ticketsTaken *= 2;
ticketsSold += (long)1;
```

- 1. ticketsSold is 8
- 2. ticketsTaken is 2
- 3. ticketsSold is 6
- 4. ticketsTaken is 6
- 5. ticketsSold is 7
- 6. ticketsTaken is 4
- 7. The code does not compile.

Chapter 4 Making decisions

1. What is the output of the following code snippet? (Choose all that apply.)

```
3: int temperature = 4;
4: long humidity = -temperature + temperature * 3;
5: if (temperature >= 4)
6: if (humidity < 6) System.out.println("Too
Low");
7: else System.out.println("Just Right");
8: else System.out.println("Too High");
```

1. Too Low
2. Just Right
3. Too High
4. A NullPointerException is thrown at runtime.
5. The code will not compile because of line 7.
6. The code will not compile because of line 8.

Temperature = 3

2. Which statements, when inserted independently into the following blank, will cause the code to print 2 at runtime? (Choose all that apply.)

```
int count = 0;
BUNNY: for(int row = 1; row <= 3; row++)
    RABBIT: for(int col = 0; col < 3; col++) {
        if((col + row) % 2 == 0)
            _____;
        count++;
    }
System.out.println(count);
```

1. break BUNNY
2. break RABBIT
3. continue BUNNY
4. continue RABBIT
5. break
6. continue
7. None of the above, as the code contains a compiler error

3. What is the output of the following code snippet?

```
2: boolean keepGoing = true;
3: int result = 15, meters = 10;
4: do {
5:     meters--;
6:     if(meters==8) keepGoing = false;
7:     result -= 2;
8: } while keepGoing;
9: System.out.println(result);
```

- 1. 7
- 2. 9
- 3. 10
- 4. 11
- 5. 15
- 6. The code will not compile because of line 6.

7. The code does not compile for a different reason.

While need parentheses = while(keepGoing)

4. What is the output of the following code snippet? (Choose all that apply.)

```
9: int w = 0, r = 1;
10: String name = "";
11: while(w < 2) {
12:     name += "A";
13:     do {
14:         name += "B";
15:         if(name.length()>0) name += "C";
16:         else break;
17:     } while (r <=1);
18:     r++; w++; }
19: System.out.println(name);
```

- 1. ABC
- 2. ABCABC
- 3. ABCABCABC
- 4. Line 15 contains a compilation error.
- 5. Line 18 contains a compilation error.
- 6. The code compiles but never terminates at runtime.
- 7. The code compiles but throws a NullPointerException at runtime.

r is never less than or equal to one

Chapter 5 Core Java APIs

1. What is output by the following code? (Choose all that apply.)

```
1: public class Fish {  
2:     public static void main(String[] args) {  
3:         int numFish = 4;  
4:         String fishType = "tuna";  
5:         String anotherFish = numFish + 1;  
6:         System.out.println(anotherFish + " " +  
fishType);  
7:         System.out.println(numFish + " " + 1);  
8:     } }
```

1. 4 1

2. 5

3. 5 tuna

4. 5tuna

5. 51tuna

6. The code does not compile.

A mathematical operation is being performed on a String with an int, this is not compatible

2. What is the result of the following code?

```
7: StringBuilder sb = new StringBuilder();  
8: sb.append("aaa").insert(1, "bb").insert(4,  
"ccc");  
9: System.out.println(sb);
```

1. abbaaccc

2. abbaccca

3. bbaaaccc

4. bbaaccca

5. An empty line

6. The code does not compile.

3. What is the result of the following code?

```
12: int count = 0;
13: String s1 = "java";
14: String s2 = "java";
15: StringBuilder s3 = new StringBuilder("java");
16: if (s1 == s2) count++;
17: if (s1.equals(s2)) count++;

18: if (s1 == s3) count++;
19: if (s1.equals(s3)) count++;
20: System.out.println(count);
```

1. 0
2. 1
3. 2
4. 3
5. 4
6. An exception is thrown.
7. The code does not compile.

The If indicated is comparing different objects

4. What is the result of the following code?

```
public class Lion {
    public void roar(String roar1, StringBuilder
    roar2) {
        roar1.concat("!!!");
        roar2.append("!!!");
    }
    public static void main(String[] args) {
        String roar1 = "roar";
        StringBuilder roar2 = new
        StringBuilder("roar");
        new Lion().roar(roar1, roar2);
        System.out.println(roar1 + " " + roar2);
    } }
```

1. roar roar
2. roar roar!!!
3. roar!!! roar
4. roar!!! roar!!!
5. An exception is thrown.
6. The code does not compile.

5. Which of the following can replace line 4 to print "avaJ"? (Choose all that apply.)

```
3: var puzzle = new StringBuilder("Java");  
4: // INSERT CODE HERE  
5: System.out.println(puzzle);
```

1. puzzle.reverse();
2. puzzle.append("vaJ\$").substring(0, 4);
3. puzzle.append("vaJ\$").delete(0, 3).deleteCharAt(puzzle.length() - 1);
4. puzzle.append("vaJ\$").delete(0,3).deleteCharAt(puzzle.length());
5. None of the above