

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

Opciones: 1. ==

2. +

3. −

4. !

5. %

6. <=

7. Cast with (boolean)

Respuesta: **Opciones 1, 4 y 7.**

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

```
byte apples = 5;  
short oranges = 10;  
_____ bananas = apples + oranges;
```

Opciones: 1. int

2. long

3. boolean

4. double

5. short

6. Byte.

Respuesta: **Opciones 1, 2 y 4.**

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

```
long ear = 10;  
int hearing = 2 * ear;
```

- Opciones:
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.

Respuesta: **Opciones 2, 3, 4 y 6.**

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)); } }
```

Opciones:

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.
6. None of the above

Respuesta: **Opción 6.**

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);
```

- Opciones:
1. 1
 2. 2
 3. 3
 4. 4
 5. 5
 6. 6
 7. The code does not compile

Respuesta: **Opciones 1, 4 y 5.**

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;
```

- Opciones:
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.

Respuesta: **Opciones 3 y 6.**

7. 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");
```

- Opciones:
- 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.

Respuesta: **Opción 2.**

8. 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)  
            _____;
```

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```
        count++;  
    }  
System.out.println(count);
```

- Opciones:
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

Respuesta: **Opciones 2, 3 y 5.**

9. 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);
```

- Opciones:
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.

Respuesta: **Opción 7.**

10. 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);
```

- Opciones:
- 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.

Opciones: **Opción 6.**

11. 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:     }}
```

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- Opciones: 1. 4 1
2. 5
3. 5 tuna
4. 5tuna
5. 51tuna
6. The code does not compile.

Respuesta: **Opción 6.**

12. 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);
```

- Opciones: 1. abbaaccc
2. abbaccca
3. bbaaaccc
4. bbaaccca
5. An empty line
6. The code does not compile.

Respuesta: **Opción 2.**

13. 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++;
```

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

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

Respuesta: **Opción 7.**

14. 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);  
    }  
}
```

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

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Respuesta: **Opción 2.**

15. 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);
```

Opciones: 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

Respuesta: **Opciones 1 y 3.**