Examen Semana 1 - Fabiola Gómez Montiel

Capítulo 3

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

- ☑ ~~==~~
- ☐ +
- ☐ -
- ☑ ~~!~~
- ☐ %
- ☐ <=
- ☑ ~~Cast with (boolean)~~

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;
```

- ☑ ~~int~~
- ☑ ~~long~~
- ☐ boolean
- ☑ ~~double~~
- ☐ short
- ☐ byte

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;
```

☐ No change; it compiles as is.

☑ ~~Cast ear on line 4 to int.~~

☑ ~~Change the data type of ear on line 3 to short.~~

☐ Cast 2 * ear on line 4 to int.

☐ Change the data type of hearing on line 4 to short.

☑ ~~Change the data type of hearing on line 4 to long.~~

6. 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)); } }
```

☐ 4-6-6.0

☐ 3-5-6

☐ 3-6-6

☐ 4-5-6

☐ The code does not compile because of line 9.

- [x] ~~None of the above~~

9. 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);
```

- [x] ~~1~~
- [ ] 2
- [ ] 3
- [x] ~~4~~
- [x] ~~5~~
- [ ] 6
- [ ] The code does not compile.

17. 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;
```

- [ ] ticketsSold is 8
- [ ] ticketsTaken is 2
- [x] ~~ticketsSold is 6~~
- [ ] ticketsTaken is 6
- [ ] ticketsSold is 7

✅ ~~ticketsTaken is 4~~

☐ The code does not compile.

Capítulo 4

2. 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");
```

☐ Too Low

✅ ~~Just Right~~

☐ Too High

☐ A NullPointerException is thrown at runtime.

☐ The code will not compile because of line 7.

☐ The code will not compile because of line 8.

6. 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);
```

☐ break BUNNY

☑ ~~break RABBIT~~

☑ ~~continue BUNNY~~

☐ continue RABBIT

☑ ~~break~~

☐ continue

☐ None of the above, as the code contains a compiler error

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);
```

☐ 7

☐ 9

☐ 10

☐ 11

☐ 15

☐ The code will not compile because of line 6.

☑ ~~The code does not compile for a different reason.~~

20. 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);
```

- [ ] ABC

- [ ] ABCABC

- [ ] ABCABCABC

- [ ] Line 15 contains a compilation error.

- [ ] Line 18 contains a compilation error.

- [x] ~~The code compiles but never terminates at runtime.~~

- [ ] The code compiles but throws a NullPointerException at runtime.

Capítulo 5

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: } }
```

- [ ] 4 1

- [ ] 5

- [ ] 5 tuna

- [ ] 5tuna

- [ ] 51tuna

- [x] ~~The code does not compile.~~

4. 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);
```

- [ ] abbaaccc

- [x] ~~abbaccca~~

- [ ] bbaaaccc

- [ ] bbaaccca

- [ ] An empty line

- [ ] The code does not compile.

5. 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);
```

- [ ] 0

- [ ] 1

- [ ] 2

- [ ] 3

- [ ] 4

☐ An exception is thrown.

☑ ~~The code does not compile.~~

6. 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);
} }
```

☐ roar roar

☑ ~~roar roar!!!~~

☐ roar!!! roar

☐ roar!!! roar!!!

☐ An exception is thrown.

☐ The code does not compile.

13. 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);
```

☑ ~~puzzle.reverse();~~

☐ puzzle.append("vaJ$").substring(0, 4);

- [ ] puzzle.append("vaJ$").delete(0, 3).deleteCharAt(puzzle.length() - 1);

- [ ] puzzle.append("vaJ$").delete(0, 3).deleteCharAt(puzzle.length());

- [ ] None of the above