Primer examen semana 1
Emmanuel Reyes Hernandez

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)

R: 1,4,7 Solo los valores de comparación y negación, funcionan para el tipo de dato boolean

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

R: 1,2,4 Las operaciones entre byte y short deben ser almacenados en un tipo de valor mayor

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

R: 2,3,4,6 Para que un tipo long sea almacenado en un tipo de valor menor se necesitar hacer un cast a uno menor

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.
6. None of the above

R: 6 No compila el programa ya que el cast de la línea 3 no es correcto

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

R: 4,5,1

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.

R: 3,6

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");
```

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.

R: 6 No compila ya que no le precede un if ya que no puede existir un else sin un if

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

1. break BUNNY

2. break RABBIT

3. continue BUNNY

4. continue RABBIT

5. break

6. continue

R: 2,3,5 Las instrucciones hacen que el flujo continue mostrándonos el 2

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);
```

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.

R: 7 Se necesita algun tipo de comparación el cual ejecutar en el do while

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);
```

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: 6 El ciclo nunca concluye ya que como e nunca incrementa siempre valdrá 1 y se creara un ciclo infinito

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: } }
```

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

R: 6 No compila ya que no se puede asignar un valor de tipo int sin antes preceder un valor de tipo String

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);
```

1. abbaaccc

2. abbaccca

3. bbaaaccc

4. bbaaccca

5. An empty line

6. The code does not compile.

R: 2 El programa regresa eso ya que indica que se almacene lo demás en los índices indicados del StringBuilder

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++;
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.

R: 7 El programa no compila ya que no se puede comparar un string con un stringBuilder

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);
  } }
```

1. roar roar

2. roar roar!!!

3. roar!!! roar

4. roar!!! roar!!!

5. An exception is thrown.

6. The code does not compile.

R: 2 El string no conserva los signos ya que como es inmutable no se altera mientras que el StringBuilder como es mutable puede almanecear el nuevo valor

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);
```

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

R: 1 Funciona con la linea de código 1 por el método de reverse