Examen de Certificación V

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: } }
```

   A. 4 1
   B. 5
   C. 5 tuna
   D. 5tuna
   E. 51tuna
   F. The code does not compile.

2. Given:
```
public class Mutant {
    public static void main(String[] args) {
        StringBuilder sb = new StringBuilder("abc");
        String s = "abc";
        sb.reverse().append("d");
        s.toUpperCase().concat("d");
        System.out.println("." + sb + ". ." + s + ".");
    }
}
```

   Which two substrings will be included in the result? (Choose two.)
   A. .abc.
   B. .ABCd.
   C. .ABCD.
   D. .cbad.
   E. .dcba.

3. Given:
```
public class Actors {
    public static void main(String[] args) {
        char[] ca = {0x4e, \u004e, 78};
        System.out.println((ca[0] == ca[1]) + " " + (ca[0] ==
ca[2]));
    }
}
```
   What is the result?
   A. true true
   B. true false
   C. false true
   D. false false
   E. Compilation fails

4. Given:

```
1. class Dims {
2.   public static void main(String[] args) {
3.         int[][] a = {{1,2}, {3,4}};
4.         int[] b = (int[]) a[1];
5.         Object o1 = a;
6.         int[][] a2 = (int[][]) o1;
7.         int[] b2 = (int[]) o1;
8.         System.out.println(b[1]);
9. } }
```
What is the result? (Choose all that apply.)
A. 2
B. 4
C. An exception is thrown at runtime
D. Compilation fails due to an error on line 4
E. Compilation fails due to an error on line 5
F. Compilation fails due to an error on line 6
G. Compilation fails due to an error on line 7

5. Which statements about the following code snippet are correct?
   (Choose all that apply.)
```
List<String> gorillas = new ArrayList<>();
  for(var koko : gorillas)
     System.out.println(koko);

  var monkeys = new ArrayList<>();
  for(var albert : monkeys)
     System.out.println(albert);

  List chimpanzees = new ArrayList<Integer>();
  for(var ham : chimpanzees)
     System.out.println(ham);
```

A. The data type of koko is String.
B. The data type of koko is Object.
C. The data type of albert is Object.
D. The data type of albert is undefined.
E. The data type of ham is Integer.
F. The data type of ham is Object.
G. None of the above, as the code does not compile

6. 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);
```

A. abbaaccc
B. abbaccca
C. bbaaaccc
D. bbaaccca
E. An empty line
F. The code does not compile.

7. Which of the following return the number 5 when run
   independently? (Choose all that apply.)
```
var string = "12345";
var builder = new StringBuilder("12345");public class Wind {
```

A. builder.charAt(4)
B. builder.replace(2, 4, "6").charAt(3)
C. builder.replace(2, 5, "6").charAt(2)
D. string.charAt(5)
E. string.length
F. string.replace("123", "1").charAt(2)
G. None of the above

8. Given:

```
1. import java.util.*;
2. class Fortress {
3. private String name;
4. private ArrayList<Integer> list;
5. Fortress() { list = new ArrayList<Integer>(); }
6.
7. String getName() { return name; }
8. void addToList(int x) { list.add(x); }
9. ArrayList getList() { return list; }
10. }
```

Which lines of code (if any) break encapsulation? (Choose all that apply.)
A. Line 3
B. Line 4
C. Line 5
D. Line 7
E. Line 8
F. Line 9
G. The class is already well encapsulated

9. Given:

```
public class Hedges {
    public static void main(String[] args) {
        String s = "JAVA";
        s = s + "rocks";
        s = s.substring(4,8);
        s.toUpperCase();
        System.out.println(s);
    }
}
```

What is the result?
A. JAVA
B. JAVAROCKS
C. rocks
D. rock
E. ROCKS
F. ROCK
G. Compilation fails

10.   Given:

```
import java.util.*;
public class Sequence {
    public static void main(String[] args) {
        ArrayList<String> myList = new ArrayList<String>();
        myList.add("apple");
        myList.add("carrot");
        myList.add("banana");
```

```
            myList.add(1, "plum");
            System.out.print(myList);
        }
}
```
What is the result?
A. [apple, banana, carrot, plum]
B. [apple, plum, carrot, banana]
C. [apple, plum, banana, carrot]
D. [plum, banana, carrot, apple]
E. [plum, apple, carrot, banana]
F. [banana, plum, carrot, apple]
G. Compilation fails