**Frankfurt University of Applied Science**

**OOP/Java – WiSe 22/23 – Doina Logofătu**

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## WEEK 3 – TASK 3 – QUIZZES

**Question 1:** Choose **2 (two)** correct options: In Java platform, standard edition, which API specifications can be used if you study statistics, and want to work with very large number, like the number of distinct Rubik combination (which is about 43 quintillion)?

    A. java.int
    **B. <u>java.lang</u>**
    **C. <u>java.math</u>**
    D. java.sql
    E. java.util

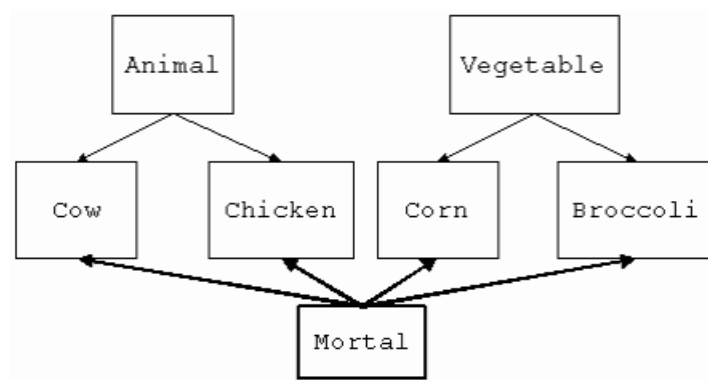**<u>Explanation:</u> We can use java.lang.Number, or java.math.BigInteger to perform the task**

**Question 2:** To achieve encapsulation in Java, which element needs to be declared as "private"?

    A. Class
    B. Class's constructor
    **C. <u>Class's variable</u>**
    D. Class's setter-and-getter method

**Question 3:** If you don't want other classes to inherit from your class, which keyword is used when declaring your class?

    A. abstract

    **B. <u>final</u>**

    C. static

    D. protected

**Question 4:** Given the chart below:



*Source: University of San Francisco ([https://www.cs.usfca.edu/~parrt/doc/java/OOProgWithJava-notes.pdf](https://www.cs.usfca.edu/~parrt/doc/java/OOProgWithJava-notes.pdf))*

Which **2 (two)** concepts of OOP is demonstrated here?

    A. Abstraction

    B. Encapsulation

    **C. <u>Inheritance</u>**

    **D. <u>Polymorphism</u>**

**Question 5:** Using the chart from Question 4, which of the following is an interface?

    A. Animal

    B. Chicken

    **C. <u>Mortal</u>**

    D. Vegetable

**Question 6:** Which of the statements below is false about interface?

    A. Interface can be defined and used as a reference data type in Java

    B. **Interface must be modified as "public", so that it can be used by any class in any package**

    C. All abstract, default, and static methods in an interface are implicitly public

    D. All constants defined in an interface are implicitly public, static, and final

**Explanation: Interface may not be modified as "public" if you want the interface to be accessible only to classes defined in the same package as the interface**

**Question 7:** What is **not** the correct way to add a new method to existing interface?

    A. **Define method directly to existing interface**

    B. Define method as default to existing interface

    C. Define method as static to existing interface

    D. Define method interface, which extents existing interface

**Question 8:** Given the Java program below:

```java
1  public class Main {
2      int w = 257;
3      int x = 410;
4      int y = 108;
5      int z = 909;
6
7      public static void main(String[] args) {
8          Main myObj = new Main();
9          System.out.println(myObj.x);
10     }
11 }
```

How many methods can be seen in the program?

    A. 0

    B. **1**

    C. 2

    D. 3

    E. 4

    F. 5

**Explanation: There is no method in Main() class, because w, x, y, and z are the state of Main(), not its methods. The only method in this program is actually println() on Line 9 ("new" on Line 8 is an operator, not a method)**

**Question 9:** Using the same program as Question 8, what is the output of the program?

    A. 108

    B. 257

    **C. <u>410</u>**

    D. 909

    E. Error