Java Quiz

There are from 0 to 2 right answers for each question, 0.1 for each incomplete choice.

Part 1 – MCQ

1. What is encapsulation ?

a. It is a link between two classes also know as the HAS-A relationship

b. It is the other name for the inheritance name, also known as the IS-A relationship

c. It is the concept that allows a class to control what is exposed to manage securely the data it manipulates

d. It is the other name for the generalization concept which increases code reusability.

2. How to initialize an array using the Java language ?

```
a. String[] strings = new String [3] ;

b. String strings[] = new String(3) ;

c. ArrayList<String > strings = new String[3] ;

d. String[] strings = {"a",  "b", "c"} ;
```

3. What makes a java Class runnable ?

```
a. The fact that this class is named « Main »

b. The fact that this class contains a public static method with
   an array of String argument

c. Only the fact that this class is publication in the launcher
   package
```

4. What is the most efficient way to describe a list of constant ?

```
a. By using a list initialized at class loading, in a static
   block
b. By using constant fields
c. By using a static Enumeration
d. By using an enum
```

5. How to define a data base connection through Java ?

```
a. You need the database connection String
b. You need the connection string and a Driver
c. you only need the driver
d. You need nothing, Java already includes that feature
```

6. What is/are the concept(s) attached to the java interfaces ?

```
a.
```
Composition
```
b.
```
Inheritance
```
c.
```
Realization
```
d.
```
Polymorphism

7. how to test that two Strings, s1 and s2, are equal in Java?

```
a. s1.equals(s2)

b. s1 == s2

c. s1 = s2

d. s1 :: s2
```

8. How many instances does the code below create?

```
Thing theThing = new Thing();
Thing anotherThing = theThing;
Thing theThird;
```

    a. 0
    b. 1
    c. 2
    d. 3

9. What is JDBC

- A protocol to deal with databases communication with the Java language
- Java Dust Bin Collector
- A protocol that helps to connect to remote file systems
- Java Data Base Connectivity

10. Associate the keyword with the best definition (note down the number in the parenthesis below)

```
1. abstract
2. interface
3. static
4. void
5. final
6. volatile
7. private
```

(   ) defines a behavior or a meta-class, allowing to generify the code and to change the implementation if needed

(   ) can be used on fields or methods, means that only the current class can access to the target field or method.

(   ) used as a method return type, indicates that the method returns not value.

(   ) used on fields or methods, for a field, indicates that the value of that field cannot be changed at runtime. For a method, indicates that the method cannot be overridden by a descending class.

Part 2- Open Questions

11. What are the three differences between primitive and object types in java?

12. What is a package? Give an explanation on how its name should be built

13. Where should you put javadoc comments ?

14.	How to instantiate a Class in Java ? Explain the difference between a class and an instance

15.	What is the goal of the interface concept ? What is the link between an interface and a class ?

16. Draw a schema to represent the development process in Java. This schema should make appear the development platform, the execution platform, and the intermediate formats between source code and execution (seen during class)

17. Write the code to access to a file in read mode, not forgetting to include proper error handling.

Hint : You have to write at least two classes (very few lines per class though).

18.   Give all the definitions you know about DataBases, ideally by drawing a schema.

Where and how did we store the java instances into it?

19.   What is GIT ? How to synchronize a project from it using eclipse ? Draw a schema for this synchronization process, including the two kinds of repositories managed by git.

20.   How to set-up a jdbc DAO ? Write the class with the **four** main operations, the constructor and the connection management. Complete the implementation for at least the constructor and one of the **four** principal methods. You can leave the rest of the methods bodies empty.