

الإسم الرقم

أجب عن جميع الأسئلة
ورقة الإمتحان تشتمل على 8 صفحات

Question One:

Part 1: Write (T) behind the correct sentence and (F) behind the false sentence:

1. A compiler executes each program statement as soon as it is translated []
2. A class describe what attributes its objects will have and what those objects will be able to do []
3. Encapsulation refers to the hiding of data and methods within an object []
4. If an object's methods are well written, the user is must aware of the low-level details of how the methods are executed []
5. when a numeric value is concatenated to a String using the plus sign, the entire expression becomes a String []
6. The created Scanner object is connected to the default input device []
7. Any class can contain an unlimited number of methods, and each method can be called an unlimited number of times. []
8. Static methods in a class are called instance methods []
9. An object name is a reference; it holds a memory address. []
10. constructor you write must have the same name as the class it constructs, and constructors have a return type []
11. A class's instance variables override locally declared variables with the samenames that are declared within the class's methods. []
12. In Java just one copy of each method in a class is stored, and all instantiated objects can use that copy. []

Part 2: Draw a circle on the correct answer

- 1.If you use the automatically supplied default constructor when you create an object
 - a. numeric fields are set to 0 (zero)
 - b. characters fields are set to blank
 - c. Boolean fields are set to true
 - d. All of these are true.
- 2.Which of the following is a correct call to a method declared as public static void aMethod(char code)?
 - a. void a Method();
 - b. void a Method('V');
 - c. a Method(char 'M');
 - d. a Method('Q');
- 3.A private static method named computeSum() is located in classA. To call the method from within classB, use the statement
 - a. computeSum(classB);
 - b. classB(computeSum());
 - c. classA.computeSum();
 - d. You cannot call computeSum() from within classB
- 4.Which of the following statements determines the square root of a number and assigns it to the variable s?
 - a. s = sqrt(number);
 - b. s = Math.sqrt(number);
 - c. number = sqrt(s);
 - d. number = Math.sqrt(s);

5. Which of the following may be part of a class definition?
 - a. instance variables
 - b. instance methods
 - c. constructors
 - d. all of these

6. Which will legally declare, construct, and initialize an array?
 - a. `int [] myList = {"1", "2", "3"};`
 - b. `int [] myList = (5, 8, 2);`
 - c. `intmyList [] [] = {4,9,7,0};`
 - d. `intmyList [] = {4, 3, 7};`

7. Which of the following method declarations is correct for a static method named `displayFacts()` if the method receives an `int` argument?
 - a. `public static intdisplayFacts()`
 - b. `public void displayFacts(int data)`
 - c. `public static void displayFacts(int data)`
 - d. Two of these are correct.

8. If you create two `String` objects:


```
String name1 = new String("Jordan");
String name2 = new String("Jore");
```

 then `name1.compareTo(name2)` has a value of _____.
 - a. true
 - b. false
 - c. -1
 - d. 1

Question two: Fill in the gaps with the suitable terms from the table below:

| | | | | |
|---------------|----------------|----------------------|-----------|--------|
| Final | this reference | Inheritance | Arguments | Static |
| Method header | Polymorphism | Java Virtual Machine | Class | State |

1. The same word or symbol to be interpreted correctly in different situations based on the context
2. The values of the properties of an object are also referred to as the object's
3. is a term that describes a group or collection of objects with common properties
4. Java can be run on a wide variety of computers because, Java runs on a hypothetical computer known as The.....
5. the ability to create classes that share the attributes and methods of existing classes, but with more specific features
6. In its declaration statement, the data type of a named constant is preceded by the keyword
7. information about how other method scan interacts with it. It is also called a declaration.
8. Data items you use in a call to a method are called
9. fields in a class are called class fields.
10. The compiler accesses the correct object's field because every time you call a method, you implicitly pass

2. Complete the table below :

| Method Name | Functionality | Example | Output |
|--------------------|---|--|-------------|
| capacity() | | StringBuildersb = new StringBuilder("Ahmed"); System.out.println(sb.capacity()); | |
| toLowerCase(Char) | | | aChar = 'h' |
| equals(String) | | String str1 = "Carmen"; String str2= "carmen"; If (str1.equals(str2)) System.out.println("Same"); else System.out.println("Different"); | |
| compareTo(String) | | String str1 = "XYZ"; String str2 = "ABS"; If (str1.compareTo(str2) == 0) System.out.println("Identical"); else if (str1.compareTo(str2) > 0) System.out.println("String 1 is Larger") else System.out.println("String 2 is Larger") | |
| indexOf(Char) | Determines whether a Specific characteroccurs Within a String, if exist return the index of the character, otherwise returns -1. | | -1 |
| replace(Char,Char) | Replaces all the Occurrences of a character Within a string with the given Char. | String str = "XXYXBNAX"; System.out.print(str.replace('X','1')); | |
| charAt(int) | | StringBuilder text = new Text StringBuilder("Programming"); char letter = text.charAt(5); | |

Question four: For each of the following problems, write a java program or a program segment that performs the specified action.

Problem (1): Write an empty class declaration for a class named **Invoice**.

Problem (2): Declare five instance variables in the class from Coding **Problem(1)** for an item: **number, name, quantity, price, and totalcost**.

Problem (3): Modify the class from Coding **Problem (2)** to include a *set* methods for the instance variables name, quantity, and price.

Problem (4): Modify the class from Coding **Problem (3)** to include a *totalprice* () method recalculate the total (price times quantity)

Problem(5): Modify the class from Coding **Problem (4)** to include a **displayLine()** method that displays the item number, name, quantity, price, and totalcost.

Question five:

From the program below answer the following questions:

```
1. public class Employee{
2. private intempNum;
3. private double empPayRate;
4. public void setValues(){
5. empNum = 777;
6. empPayRate = 88.8;
7. public void methodThatUsesInstanceAttributes()
8. System.out.println("Employee number is " +
   empNum);
9. System.out.println("Pay rate is " + empPayRate);
10. public void methodThatUsesVariables()
11. intempNum = 33333;
12. double empPayRate = 555.55;
13. System.out.println("Employee number is "
   +this.empNum);
14. System.out.println("Pay rate is " +
   this.empPayRate);
15. public class TestEmployeeMethods
16. public static void main(String[] args)
17. Employee aWorker = new Employee();
18. aWorker.setValues();
19. aWorker.methodThatUsesInstanceAttributes();
20. aWorker.methodThatUsesLocalVariables();
```

a) Why we use the new operator in line (17)?
.....
.....

b) Why did we call methodThatUsesInstanceAttributes() method using an object in line (19)?
.....
.....

c) Explain the following lines:
Line1.....
.....
Line2.....
.....
Line7.....
.....
Line11.....
.....
Line14.....
.....
Line17.....
.....
Line18.....
.....

d) What is the output from this program
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.....

Good Luck