Cognizant Technology Solutions

Access Specifiers, Constructors and Methods Exercise

CATP Java Team
5/20/2012

For The Associates:

The documents details two flavors of problem statements

- **Statement # 1:** Few problem solutions have been provided for associates should analyze the program and write down the program output. This will enhance the analyzing skills of associates and also understand "why" part of java programming feature. The associates can then try running the program in eclipse and check if the output with what they have written.
- **Stamen # 2:** There are some problem statements provided similar to the final assessment and associates need to solve it. This will enhance the programming skills of the associates.
  IMPORTANT: These exercises will gear you up for the core java assessment so please develop/analyze the exercise independently. In case you are stuck up reach out to the trainers.

Exercises:

1. What is the expected output?

```java
public class Profile {
private Profile(int w) {
System.out.println(w);
}
public static Profile() {
System.out.println(10);
}
public static void main(String args[]) {
Profile obj = new Profile(50);
}
}
```

2. What is the result of compiling and running the following code?

```java
public class Test {
    static int p = test();
    static public int test() {
    System.out.println(p);
    return 99;
    }
    public static void main(String[] args)
    {
    System.out.println(p);
    }
}
```

3. What is the result of compiling and running the following code?

```java
public class Tester {
static int x = 4;
public Tester() {
System.out.print(this.x);
Tester();
}
public static void Tester() {
System.out.print(this.x);
}
public static void main(String... args) {
new Tester();
}

}
```

4. What is the output?

```
class InitDemo{
static int i=demo();
static{System.out.println(i);}
InitDemo(){
System.out.println("hello 1");
}
public static void main(String... args){
System.out.println("Hello 2");
}
static int demo(){
System.out.println("Inside Demo");
return 10;
}
}
```

5. What is the output?

```
class InitDemo{
int a;
public InitDemo(int val){
a=val;
System.out.println("Value of  a:"+a);
}
}
class MainClass {
public static void main(String... args){
new InitDemo();
}

}
```

6. You have two packages, trunk1 and trunk2 where class Sheet declared in trunk1 and class Container declared in trunk2. Will the compile? If not make it compile by doing the necessary modification. (Package should not be changed)

```
package trunk1;

public class Sheet {

public static int pageNumber = 99;

Sheet() {}

}

package trunk2;

import trunk1.Sheet;

public class Container {

public static void main(String... args) {

System.out.print(Sheet.pageNumber);

Sheet sheet = new Sheet();

}

}
```

7. Create a class that calculates the factorial of number

Class Name	Factorial
Method Name	calculateFactorial
Method Description	Calculates the factorial of a number
Argument	int n
Return Type	int – Factorial of a number
Logic	Factorial of a number is given by N factorial = n*(n-1)*(n-2)……….1

8. Create a class that returns the biggest number.

Class Name	GreaterFinder
Method Name	findGreater2
Method Description	Finds the biggest of two numbers
Argument	int number1,number 2
Return Type	int – biggest number

Logic	The bigger of the two numbers should be determined using a single operator.
Method Name	findGreater2
Method Description	Finds the biggest of three numbers
Argument	int number1,number 2,number3
Return Type	int – biggest number
Logic	The biggest of three numbers using if statement.