Mock Exam – OOP

MCQ section

1. What is the output of the below Java code snippet?

float a = 8.2/2;

System.out.println(a);

A. 4.1
B. 8.1
C. 4
D. Compiler error due to / operator
E. Compile error due to type

2. Which of the following are not Java keywords ?

A. double
B. switch
C. then
D. instanceof
E. extends

3. Which of the following are correct in java?

A. java final keyword can be used with variables, methods and class.
B. You can create only one instance of abstract class.
C. interface extends interface.
D. List, Set, Map are classes in java.
E. You can create only one instance from a final class

4. What can directly access and manipulate the value of the variable "**roomNo**"

```
package com.tih;

public class Hostel  {
    public int roomNo = 107;
}
```

A. Only the hostel class
B. Subclass to hostel class
C. Any class within com.tih package
D. Any class within any package
E. Any class outside package

5.Refer the code below

```
class TIH{

      public int add(int a, int b){
          //implementation
      }

      public int add(int a, int b, int c){
          //implementation
      }

}
```

.

The add implementation is an example of?

A. method overriding
B. constructor overriding
C. method overloading
D. constructor overloading
E. method shadowing

6. Refer the code below

```
class TestString{

      public static void main(String args[]){

      String name="Rajneesh";
      name.concat("Shukla");

      System.out.println(name);

 }

}
```

What is the output?

A. compilation error
B. Rajnee Shshukla
C. rajneeshshukla
D. Rajneesh
E. RajneeShshukla

7. Given the below code:

```
public class Arr1 {
        public static void main(String a[]){

                Integer number = Integer.valueOf("999.9"); //line3
                System.out.println(number);

        }
}
```

A. 999
B. ClassCastException occurs at runtime
C. NumberFormatException occurs at runtime
D. Compilation fails at line 3
E. 999.90

8. What is the output for below code?

```
public class QTIH10 {
        private String name;
        private boolean pass;

        public static void main(String[] args) {
                QTIH10 q = new QTIH10();
                System.out.println("String "+ q.name);
                System.out.println(", boolean "+ q.pass);

        }

}
```

A. String =, boolean =
B. String = null, boolean = null
C. String = null, boolean = false
D. String = null, boolean = true
E. Compiler error

9. What is the output of the below code?

```
import java.util.ArrayList;
import java.util.List;

public class Q26 {

        public static void main(String[] args) {
                List<String> names = new ArrayList<>();
                names.add("Robb");
                names.add("Bran");
                names.add("Rick");
                names.add("Bran");

                if(names.remove("Bran"))
                   names.remove("Ross");

                System.out.println(names);

        }

}
```

A. [Robb, Rick]
B. [Robb, Rick, Bran]
C. [Robb, Rick, Bran,Ross]
D. [Robb, Bran, Rick, Bran]
E. An exception is thrown at runtime

10. Which of the following statement is **correct**:

A. Threads use shared memory.
B. Process use separate memory.
C. Each thread has a thread ID
D. Each process has process ID
E. Main thread is a daemon thread

Essay Section

1. This Question based on Collections and generics.(10 marks)

Write a program where it prints the sentence words in the reverse order using the stack class. Get the sentence word by word as a keyboard input until user enter a word with a period. Once a word with period finds, it should print the reverse order of that sentence.

You can Refer the main class and the console output given below and implement the PrintReverse class in given space.

```
2
3  import java.util.Scanner;
4  import java.util.Stack;
5
6  public class Demo {
7
8      public static void main(String[] args) {
9          Stack<String> theStack = new Stack<String>();
10         PrintReverse ob=new PrintReverse();
11         ob.inputSentence(theStack);
12         ob.printSentence(theStack);
13
14     }
15
16 }
```

```
Enter the first word in your setence
i
Enter a word by word
like
Enter a word by word
java.
Reverse sentence
java.
like
i
```

2. This Question is based on Java Threads. (10 marks)

A Wrapping paper Art is printed using computer program and which is drawn using two concurrent Threads. You are allowed to enter pattern styles through keyboard inputs and you should select number of occurrences (count) to be printed the style. Each thread should print patterns one after the other and you should print the triangle shape using given style.

Refer the console output and implement the two threads in the given space below.

Output:

```
Enter Pattern 1 = +
Enter Pattern 2 = -
Enter count = 6
========Threads start printing patterns.=======
        -
        +
       - -
       + +
      - - -
      + + +
     - - - -
     + + + +
    - - - - -
    + + + + +
   - - - - - -
   + + + + + +
```

3. This question is based on design patterns.(10 marks)

In the Eclipse integrated development environment (IDE) software, we can perform some actions to support "save" and "saveall" actions. When Developer press the relevant button, IDE it should perform the different actions.

1. Write the most suitable design pattern name that can be use in above scenario?

2. Implement the relevant classes to demonstrate the design pattern you named in part 1.

You can refer to the main class given below and implement the classes accordingly.

```
1
2 public class Developer {
3     public static void main(String args[]) {
4         IDE ide=new IDE();
5         Receiver intendedreceiver = new Receiver();
6         System.out.println("Pressed save button!");
7         SaveAction saveaction = new SaveAction(intendedreceiver);
8         ide.SetAction(saveaction);
9         ide.ExecuteAction();
10
11        System.out.println("Pressed saveAll button!");
12        SaveAllAction saveallaction = new SaveAllAction(intendedreceiver);
13        ide.SetAction(saveallaction);
14        ide.ExecuteAction();
15    }
16
17 }
```

```
<terminated> Developer [Java Application] C:\Pr
Pressed save button!
Saving file...
Pressed saveAll button!
Saving all the files...
```