

# Quiz 2

|                   |                                  |
|-------------------|----------------------------------|
| Deadline          | N/A                              |
| Latest Submission | Friday, 23 August 2019 at 9:48AM |
| Raw Mark          | 7.00/7.00 (100.00%)              |
| Late Penalty      | N/A                              |
| Final Mark        | 7.00/7.00 (100.00%)              |

## Question 1 (1 mark)

Which of the following statements is FALSE in relation to generics?

|     |   |
|-----|---|
| (a) | A generic class used without type arguments is known as a <i>raw type</i>   |
| (b) | You cannot instantiate an array of a generic type using new operator e.g., <code>T[] anArray = new T[100]</code>  |
| (c) | Consider the following method, <code>someMethod(Box&lt;Number&gt; n) { /*.... */ }</code> , this method can take in a <code>Box&lt;Integer&gt;</code> or <code>Box&lt;Double&gt;</code> |

✓ Your response was correct.

Mark: 1.00

## Question 2 (1 mark)

Consider the following code:

```
public interface xyz {
    void abc() throws IOException;
}
public interface pqr {
    void abc() throws FileNotFoundException;
}
public class Implementation implements xyz, pqr {
    // insert code
    { /*implementation*/ }
}
```

Which of the following statement(s) can you insert in place of “// insert code” comment?

|                                      |   |
|--------------------------------------|---|
| (a) <input type="radio"/>            | public void abc() throws FileNotFoundException, IOException |
| (b) <input type="radio"/>            | public void abc() throws IOException                        |
| (c) <input checked="" type="radio"/> | public void abc() throws FileNotFoundException              |

✓ Your response was correct.

Mark: 1.00

### Question 3 (1 mark)

A design pattern used to enhance a component's functionality dynamically at run-time is:

|                                      |                          |
|--------------------------------------|--------------------------|
| (a) <input type="radio"/>            | Composite Pattern        |
| (b) <input checked="" type="radio"/> | Decorator Pattern        |
| (c) <input type="radio"/>            | Abstract Factory Pattern |
| (d) <input type="radio"/>            | Observer Pattern         |

✓ Your response was correct.

Mark: 1.00

### Question 4 (1 mark)

- Which Design Pattern should you use when....
  - there is a language to interpret, and you can represent statements in the language as abstract syntax trees.

|                                      |           |
|--------------------------------------|-----------|
| (a) <input type="radio"/>            | Singleton |
| (b) <input type="radio"/>            | State     |
| (c) <input checked="" type="radio"/> | Composite |
| (d) <input type="radio"/>            | Factory   |

✓ Your response was correct.

Mark: 1.00

### Question 5 (1 mark)

Identify the pattern used in this code:

```
LineNumberReader lnr = new LineNumberReader(
    new BufferedReader(
        new FileReader("./test.c")));

String str = null;
while((str = lnr.readLine()) != null)
    System.out.println(lnr.getLineNumber() + ": " + str);
```

|                                      |           |
|--------------------------------------|-----------|
| (a) <input type="radio"/>            | Strategy  |
| (b) <input type="radio"/>            | State     |
| (c) <input type="radio"/>            | Factory   |
| (d) <input checked="" type="radio"/> | Decorator |

✓ Your response was correct.

Mark: 1.00

#### Question 6 (1 mark)

Which of the following exceptions must be handled by a try-catch block or declared?

|                                      |                       |
|--------------------------------------|-----------------------|
| (a) <input type="radio"/>            | NullPointerException  |
| (b) <input checked="" type="radio"/> | MalformedURLException |
| (c) <input type="radio"/>            | ClassCastException    |
| (d) <input type="radio"/>            | ArithmeticException   |

✓ Your response was correct.

Mark: 1.00

#### Question 7 (1 mark)

Which of the following statements is NOT true?

|                                      |   |
|--------------------------------------|---|
| (a) <input checked="" type="radio"/> | The Builder Pattern is a violation of the law of demeter                                |
| (b) <input type="radio"/>            | Decorators provide a flexible alternative to inheritance for extending functionality.   |
| (c) <input type="radio"/>            | The observer pattern provides a design where subjects and observers are loosely coupled |

- |                              |   |
|------------------------------|---|
| (d)<br><input type="radio"/> | The Factory Method Design Pattern uses inheritance to solve the problem of creating objects without specifying their exact object classes |
|------------------------------|---|

✓ Your response was correct.

Mark: 1.00

✓ Submit