



## PROGRAMMING IN JAVA

### Assignment 4

TYPE OF QUESTION: MCQ

Number of questions: 10

Total mark:  $10 \times 1 = 10$

#### QUESTION 1:

Which of the following is the correct statement for creating a package?

- a. `<package name> package;`
- b. `package <package name>;`
- c. `package;`
- d. `<package name>;`

**Correct Answer: b**

#### **Detailed Solution:**

To define a package, every source file needs to start with the statement 'package' followed by the *package name*.

#### QUESTION 2:

How Java Runtime Environment (JRE) knows where to look for a package that you create?

- a. It searches in the current directory.
- b. It searches in the location set in the CLASSPATH environment variable.
- c. A user can set the path during runtime using the `-classpath` option.
- d. Using the `-path` option, a user can set the path.

**Correct Answer: a, b, c**

#### **Detailed Solution:**

- First, by default, the Java run-time system uses the current working directory as its starting point. Thus, if your package is in a sub-directory of the current directory, it will be found.
- Second, you can specify a directory path or paths by setting the CLASSPATH environmental variable.
- Third, you can use the `-classpath` option with **java** and **javac** to specify the path to your classes.



### **QUESTION 3:**

**Which of the following statement(s) is/are false?**

- a. Java packages are hierarchical.
- b. `System.out.println()` is a predefined java function.
- c. Java can have a nested class structure.
- d. The Java *static* keyword is a non-access modifier.

**Correct Answer: a**

#### **Detailed Solution:**

At first, packages appear to be hierarchical, but they are not. For example, the Java API includes a `java.awt` package, a `java.awt.color` package, a `java.awt.font` package, and many others that begin with `java.awt`. However, the `java.awt.color` package, the `java.awt.font` package, and other `java.awt.xxxx` packages are not included in the `java.awt` package. The prefix `java.awt` (the Java Abstract Window Toolkit) is used for a number of related packages to make the relationship evident, but not to show inclusion. All the other options are correct.

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### **QUESTION 4:**

**Which of the following is/are NOT correct regarding packages in Java?**

- a. Java supports both pre-defined and user-defined packages.
- b. Packages are used to organize a set of related classes and interfaces.
- c. Pre-defined packages help to develop programs easily by providing thousands of classes.
- d. Packages are used to organize only a set of related classes and not interfaces.

**Correct Answer: d**

#### **Detailed Solution:**

A package is a namespace that organizes a set of related classes and interfaces. It is just like a folder in your computer, where, you might keep HTML pages in one folder, images in another, and scripts or applications in yet another. Since, Java programs can be composed of hundreds or thousands of individual classes, it makes sense to keep things organized by placing related classes and interfaces into packages.

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### **QUESTION 5:**

Consider the program given below.

```
public class Main{  
    public static void main(String args[]){  
        System.out.println(cos(2*PI));  
    }  
}
```

**What will be the output if the above program is executed?**

- a. It will give compile-time error
- b. It will give run-time error
- c. 1.0
- d. 3.14

**Correct Answer: a**

**Detailed Solution:**

**Test by run.**

The static import statement is used to import the static members (e.g., PI) of java.lang.Math.

```
import static java.lang.Math.*;
```

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### **QUESTION 6:**

**Which of the following is the minimum requirement for executing a Java program?**

- a. JDK
- b. JRE
- c. JDK without JRE
- d. JRE without JDK

**Correct Answer: b, d**

**Detailed Solution:**

JRE (Java Runtime Environment) is required for the execution of the Java programs. JDK contains JRE by default. Therefore, if we talk about minimum requirement, then both **b** and **d** options are correct.

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**QUESTION 7:**

**Which of the following is required for developing a Java program?**

- a. JDK
- b. JRE
- c. JDK without JRE
- d. JRE without JDK

**Correct Answer: a**

**Detailed Solution:**

JDK (Java Development Kit) is required for developing the Java programs. Since, JDK already comes packed with JRE and there is no option to select JDK without JRE, option **a** is the only valid option.

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**QUESTION 8:**

**Which of the following is/are valid declaration(s) of an interface?**

- a.

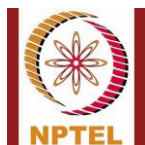
```
public interface Question {  
    void method (int value) {  
        System.out.println("Nptel");  
    }  
}
```
- b.

```
public interface Question {  
    void method (int value);  
}
```
- c.

```
public interface Question {  
  
}
```
- d.

```
public interface Question {  
    default void method (int value) {  
        System.out.println("Nptel");  
    }  
}
```

**Correct Answer: b,c,d**



**Detailed Solution:**

In option (a), It has a method implementation in it. Only default and static methods have implementations. So, option (a) is not a valid interface. All others are valid.

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**QUESTION 9:**

**Which of the following statement(s) is/are NOT true?**

- a. The default package in the Java language is java.lang.
- b. String is a final class and it is present in java.lang package.
- c. Runnable is a class present in java.lang package.
- d. Thread is a class present in java.lang package.

**Correct Answer: c**

**Detailed Solution:**

Runnable is an interface in java.lang package.

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**QUESTION 10:**

**Which of the following statement(s) is/are true?**

- a. With the import statement, generally import only a single package member or an entire package.
- b. To import all the types contained in a particular package, use the import statement with the asterisk (\*) wildcard character.  
`import package.*;`
- c. `import package.A*;` it used to match a subset of the classes in a package starts with “A”.
- d. `import package.A*;` it generates compilation error.

**Correct Answer: a,b,d**

**Detailed Solution:**

`import package.A*;` it generates compilation error.

\*\*\*\*\*END\*\*\*\*\*