



Session 1- Java: An introduction

Exercises

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Session 1: Exercises

Multiple Choice Question

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Introduction To Java

Q1. What is java?

- A. Completely object-oriented language
- B. Partially object-oriented language
- C. Object based language
- D. Structured language

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Introduction To Java

Q2. What is the acronym for OOP?

- A. Object Oriented Programming
- B. Object Orientation programming
- C. Object Oriented Program
- D. Object Oriented Procedure

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Introduction To Java

Q3. JVM does not contain which of the following?

- A. Bytecode verifier
- B. Class loader
- C. Java standard class libraries
- D. Security Manager

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Introduction To Java

Q4. Bundling attributes and methods together is called?

- A. Abstraction
- B. Data Hiding
- C. Implementation Hiding
- D. Encapsulation

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Introduction To Java

Q5. A user-defined data type that defines a collection of objects that share the same characteristics.

- A. Object
- B. Class
- C. Array
- D. Method

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Q6. Which of the following are access specifiers in java?

- A. public
- B. private
- C. static
- D. void

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Introduction To Java

Q7. What will happen when you compile or execute the following code?

```
public class Test {  
    public static void main() {  
        System.out.println("Hello Nityo");  
    }  
}
```

- A. Code will not compile
- B. Code will execute and print "Hello Nityo"
- C. Code will throw an exception at runtime
- D. Code will execute and print nothing

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Introduction To Java

Q8. _____ the ability of a generalized request (message) to produce different results based on the object that it is sent to.

- A. Inheritance
- B. Abstraction
- C. Polymorphism
- D. Encapsulation

Introduction To Java

Q9. _____ feature of OOPS that means ignoring the non-essential details of an object and concentrating on its essential features.

- A. Inheritance
- B. Encapsulation
- C. Abstraction
- D. Polymorphism

Introduction To Java

Q10. What part of object-oriented technology defines superclass and subclass relationships?

- A. Inheritance
- B. Scalability
- C. Encapsulation
- D. Polymorphism

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Introduction To Java

Q11. What term is used to describe the internal representation of an object that is hidden from view outside the object's definition?

- A. Encapsulation
- B. Expandable
- C. Polymorphism
- D. Inheritance

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Q12. Java 7 is called as?

- A. Dolphin
- B. Mustang
- C. Tiger
- D. Merlin

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Introduction To Java

Q13. Which of the following is not a feature of the Java language?

- A. Multithreaded
- B. Pointers
- C. Static binding of class libraries
- D. Strong platform specific class libraries

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Introduction To Java

Q14. Which of the following is/are true?

- A. Java code can compiled in any OS
- B. Java bytecode is platform independent
- C. Only JRE is required to execute java code
- D. JDK must be downloaded in order to execute java code

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Q15. Which of the following does JRE consist of?

- A. JVM
- B. JDK
- C. Standard java classes
- D. JNI

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Introduction To Java

Q16. What happens when you compile or execute the code?

```
1.  public class Test {  
2.      public static void main(String as[]) {  
3.          int i;  
4.          System.out.print(i);  
5.      }}
```

- A. There is a compilation error at line 4
- B. Code compiles clean and displays 0
- C. Code compiles clean and displays garbage value
- D. Code compiles clean but throws an exception at runtime

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Introduction To Java

Q17. `public class Test{`
 `public static void main(String[] args) {`
 `short s1 = 1; //Line 1`
 `final char c1 = 1; //Line 2`
 `byte b1 = s1; //Line 3`
 `byte b2 = c1; //Line 4`
 `}}` A compile-time error is generated at which line?

- A. 1
- B. 2
- C. 3
- D. 4

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Introduction To Java

Q18. public class Test {

public static void main (String[] args) {

byte b = 1; // 1

int i = 100; // 2

_____ // 3

}}What can you insert at line 3 so that the code compiles and run?

A. b=i+1;

B. b += i;

C. i=b+1;

D. b=b+1;

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Q19. `public class Test {`

`int j; //line 1`

`public static void main(String str[]) {`

`int i=0; // line 2`

`System.out.println(i); // line 3`

`System.out.println(j); //line 4`

`}}` The code above:

- A. Compiles clean and displays 0 for both i and j
- B. Generates compilation error at line 1
- C. Generates compilation error at line 2
- D. Generates compilation error at line 3
- E. Generates compilation error at line 4

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Q20. `public class Loop {
 public static void main(String as[]){
 while(1) {
 System.out.println("Ok");
 }
 }
}`

What will happen when you compile or execute this code?

- A. prints "Ok" continuously
- B. Code will not compile
- C. Code will generate an error at runtime
- D. Nothing is displayed

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Q21. `public class Test {
 public static void main(String[] args) {
 for(int j = 0; j < 1 ; j++) {
 if (j < 1) continue inner;
 inner:
 for(int i = 0; i < 2; i++)
 {
 System.out.println("Hello world");
 }
 }
 }
}`

What will happen when you compile or execute this code?

- A. The code will not compile
- B. It will run and print "Hello world" twice
- C. It will run and print "Hello world" once
- D. It will run and print "Hello world" thrice

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Q22. Which of the following is/are NOT valid variable name declaration?

- A. %name
- B. \$xyz
- C. String
- D. Main
- E. 2number

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Q23. Select the invalid assignments:

- A. `int i = (int)16.2d;`
- B. `byte b = (byte)(long)16.2;`
- C. `float f = 16.2;`
- D. `byte b = (int)16.2;`

Introduction To Java

```
Q24. public class Test {  
    public static void main(String[] args) {  
        int x=10;  
        double y=10/3;  
        System.out.println(y);  
    }  
}
```

What does the code print?

- A. 3.0
- B. 3.3333333
- C. 3
- D. Compilation error

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Q25. `public class Test {
 public static void main(String[] args){
 float x=10f;
 float y=10/3;
 System.out.println(y);
 }
}`

What does the code print?

- A. 3.0
- B. 3.3333333
- C. 3
- D. Compilation error

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Q26. public class Test

```
{  
    public static void display(boolean b1)  
    {  
        System.out.print("Boolean");  
    }  
    public static void display(byte b1)  
    {  
        System.out.print("byte ");  
    }  
    public static void display(int i1)  
    {  
        System.out.print("int");  
    }  
    public static void main(String[] args)  
    {  
        byte b1; display(b1 = 1); display(b1 == 1);  
    }  
}
```

What is the result of attempting to compile and run the program?

- A. Prints: int Boolean
- B. Prints: byte Boolean
- C. Prints: Boolean Boolean
- D. Compilation error

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```
Q27. public class Test1{
    int[] i1 = {1}, i2 = {3};
    void m1() {
        m2(i1, i2);
        System.out.print(i1[0] + "," + i2[0]);
    }
    void m2(int[] i1, int[] i2) {
        int[] i3 = i1;
        this.i1 = i2;
        this.i2 = i3;
    }
    public static void main (String[] args) {
        new Test1().m1();
    }
}
```

}} The code above:

- A.** Prints:0,0
- B.** Prints:1,1
- C.** Prints:1,3
- D.** Prints : 3,1

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Q28. Overloading requires:

- A. Different method signatures
- B. Same method name but different arguments
- C. Same method name and number of arguments but different order of arguments
- D. Same name but different arguments and return type

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Q29. `public class A {
 public static void main(String[] args) {
 char a = 'a', b = 'b';
 System.out.print(a + b + "" + a + b);
 }
}`

Given that ascii code for 'a' = 97, 'b'=98 what is the result of attempting to compile and run the program?

- A. Prints ab195
- B. Prints:195ab
- C. Prints: 195195
- D. Prints: abab

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Q30. `public class Employee{`
 `private void display(){`
 `private String msg="Hello"; // line 1`
 `System.out.println(msg);`
 `}`
 `public static void main(String str[]){`
 `new Employee().display(); //line 2`

}}The code above:

- A. Code prints: Hello
- B. Code prints nothing
- C. Compilation error occurs at line marked 1
- D. Compilation error occurs at line marked 2

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Introduction To Java

Q31. There is exactly one copy of this variable in existence, regardless of how many times the class has been instantiated.

The statement above is referring to:

- A. Local variable
- B. Global variable
- C. Instance variable
- D. Static variable

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Q32. Which of the following is false?

- A. Class name and constructor name must be same
- B. Constructor does not have return type
- C. Constructor must be public
- D. Constructor cannot be static

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Q33. `public class Person {`
1. `private String name;`
2. `public static void main(String str[]) {`
3. `Person p=new Person();`
4. _____
5. `System.out.print(p.name);`
6. `}}`

What statement can be put in line 4 so that the code prints "Machiel"?

- A. `p.name="Machiel";`
- B. `p.setName("Machiel");`
- C. `name="Machiel";`
- D. None of the above

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Q34. `public class Test{`
 `public static int m1(int x) {return ++x;}`
 `public static void main (String[] args) {`
 `int x = 1;`
 `int y = m1(x);`
 `System.out.println(x + "," + y);`
 `}}`

What is the result of attempting to compile and run the program?

- A. prints 1,2
- B. prints 1,1
- C. Compilation error. m1() cannot be called without Test instance
- D. Prints nothing

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Introduction To Java

Q35. `public class A {`
 `public A() {} // Line1`
 `private int A; // Line2`
 `public void A() {} // Line3`
`}`

Which line causes compilation error?

- A. Line marked 1 because method does not have return type
- B. Line marked 2 because member variable name and class name clash
- C. Line marked 3 because method name is same as the class name
- D. There is no compilation error anywhere

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Introduction To Java

Q36. public class Test{

```
private static int x=1;  
public static void m1(int i) {x++; i++;}  
public static void main (String[] args) {  
    int y=3;  
    m1(y);  
    System.out.println(x + "," + y); }}
```

What is the result of attempting to compile and run the program?

- A.** prints 1,3
- B.** prints 2,3
- C.** Prints 1,4
- D.** Prints 2,4

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Introduction To Java

Q37. `public class Test1 {
 public static void main(String[] args) {
 int[][] a1 = {{1,2},{3,4,5},{6,7,8,9},{}};
 for (int i = 0; i < a1.length; i++) {
 System.out.print(a1[i].length+",");
 }
 }
}`

}} What is the result of attempting to compile and run the program?

- A. Prints: 2,3,4,0,
- B. Prints: 1,2,5,0,
- C. Compile-time error
- D. Run-time error

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Introduction To Java

Q38. `int a[] = {1,2,3,4,5};`
`for(_____)`
`System.out.println(j);`

What needs to be filled in order to print the content of the array?

- A. `j:a`
- B. `int j:a`
- C. `a:int j`
- D. `int a:j`

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Introduction To Java

Q39. Test1.java(is source file name)

```
package a;  
package b;  
public class Test1 {  
    public static void main(String[] args) {}  
    public class Test2{  
        public static void main(String[] args) {}  
    }  
}
```

What is/are the problems with the code?

- A. There are two package statements. There can be only 1
- B. There are two main methods. There can be only 1
- C. There are two public classes. There can be only 1
- D. The file must be named as Test2.java

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Introduction To Java

Q40. Which of the following are Package naming conventions?

- A. Must begin with lower case
- B. Must not contain numbers
- C. Must be all in lower case
- D. Must be a single letter

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Introduction To Java

Q41. What of the following packages are imported automatically?

- A. `javax.lang`
- B. `java.lang.*`
- C. `java.util`
- D. `java.io`

Introduction To Java

Q42. The import statement in Java:

- A.** Includes the source file of the specified classes with the current file before compiling
- B.** Includes the class files of the specified classes with the current class file before after compiling
- C.** Loads the class files on demand
- D.** Allows the current code to access classes which are declared in other packages without using their full name

Introduction To Java

Q43. Select the code snippets which is/are NOT correct?

- A.

```
package Student;  
import java.lang.*;  
public class Grade{}
```
- B.

```
import java.lang.*;  
package student;  
public class Grade{}
```
- C.

```
package student;  
import java.lang.*;  
public class Grade{  
public class Teacher{}
```
- D.

```
import java.*;  
import java.lang.*;  
public class Grade{}
```

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Introduction To Java

Q44. package a;

```
class A{  
    int i;  
    A(){}  
}
```

package b;

public class B{}

For class B to access "i" of class A, which of the following is/are necessary?

- A. class A must be declared public
- B. Constructor A(){} must be declared public
- C. int i must be declared public
- D. None of the above

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Introduction To Java

Q45. Which of the following is TRUE?

- A. In java, an instance field declared public generates a compilation error
- B. Int is the name of a class available in the package java.lang
- C. Instance variable names may only contain letters and digits
- D. A class has always a constructor (possibly automatically supplied by the java compiler)

Session 1: Exercises

Hands-On Exercises

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Introduction To Java

- Q1.** Write a program to print default values of all primitive types.
- Q2.** Write a program to declare all primitive data types with all possible types of initialization and also check implicit and explicit type casting by assigning them to each other.
- Q3.** Write a program to find whether a number is Prime or not.
- Q4.** Write a program to calculate average of the n number using a separate function other than main.

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Introduction To Java

Q5. Write a program to display number matrix as follows using Two Dimensional Rectangular Array.

```
1   2   3   4
5   6   7   8
9   10  11  12
13  14  15  16
```

Q6. Write a program using loop to display “*” in below order.

```
*
*  *
*  *  *
*  *  *  *
```

Q7. Try to execute java program by giving different name to class and file.

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Introduction To Java

Q8. Try to compile and execute java program by defining main

- A. Without public modifier
- B. Without static modifier
- C. Without function parameter

Q9. Write a program to test:

- A. to modify const member.
- B. to access static member in a non-static method.
- C. create a class with one argument constructor and try to instantiate object without parameter.

Q10. Write a program using Switch–case to print number of days in a month. For the month of February check for leap year and calculate.

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Questions & Answers Session



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