

JAVA PROGRAMMING WORKBOOK

Chapter-wise Question Bank & Answer Key (Chapters 1 to 8)

CHAPTER 1: OBJECT-ORIENTED PROGRAMMING CONCEPTS

Section A: Multiple Choice Questions

1. Which of the following best defines abstraction in OOP?
 - a) The process of hiding the implementation details and only exposing the necessary information.
 - b) The ability of a method to take on different forms based on the object it's acting upon.
 - c) The creation of a blueprint for objects that defines attributes and behaviors.
 - d) The process of inheriting properties and behaviors from one class to another.
2. Inheritance in OOP is primarily used for:
 - a) Hiding complex implementation details.
 - b) Wrapping data and methods into a single unit.
 - c) Code reusability and defining relationships between classes.
 - d) Encapsulation of data within objects.
3. What does polymorphism in OOP refer to?
 - a) The process of bundling data and methods into a single unit.
 - b) The ability of an object to take on different forms based on its attributes.
 - c) The process of hiding the implementation details and exposing only necessary information.
 - d) The ability of a method to take on different forms based on the object it's acting upon.
4. What is the primary purpose of encapsulation in OOP?
 - a) Hiding complex implementation details.
 - b) Creating relationships between classes.
 - c) Allowing multiple objects to access the same data.
 - d) Defining interfaces for classes.
5. Which programming paradigm emphasizes breaking down the problem into smaller parts through functions?
 - a) Object-Oriented Programming (OOP)
 - b) Procedure-Oriented Programming (POP)
 - c) Both OOP and POP
 - d) Imperative Programming

6. Which paradigm tends to promote reusability, modularity, and easier maintenance through concepts like inheritance and polymorphism?
- a) Object-Oriented Programming (OOP)
 - b) Procedure-Oriented Programming (POP)
 - c) Both OOP and POP
 - d) Functional Programming
7. Which of the following statement is correct about machine language?
- a) It is also known as low-level language
 - b) It is difficult to debug
 - c) It does not require any translator for its conversion
 - d) All of the above

Section B: Fill in the Blanks

1. In _____, data and functions are considered separate entities and may not be closely associated.
2. _____ is the process of hiding the complex implementation details and displaying only essential information.
3. Objects are instances of a _____.

Section C: State True or False

1. OOP supports top-down programming approach.
2. Inheritance is a core principle of POP, allowing classes to inherit properties from other classes.
3. In OOP, classes serve as blueprints for creating objects, defining their attributes and behaviors.
4. Inheritance supports the concept of reusability.
5. Abstraction in OOP involves exposing all the internal details of a class to the outside world.
6. Procedure Oriented programming supports the concept of reusability.
7. A class is a collection of similar type of objects.

ANSWER KEY - CHAPTER 1

Section	Answers
Section A: MCQs	1. a) The process of hiding the implementation details and only exposing the necessary information. 2. c) Code reusability and defining relationships between classes. 3. d) The ability of a method to take on different forms based on the object it's acting upon. 4. a) Hiding complex implementation details. 5. b) Procedure-Oriented Programming (POP) 6. a) Object-Oriented Programming (OOP)

Section B: Fill in the Blanks

7. d) All of the above

1. POP (Procedure-Oriented Programming)
2. Abstraction
3. Class

Section C: True or False

1. False (OOP follows a bottom-up approach)
2. False
3. True
4. True
5. False
6. False
7. True

CHAPTER 2: INTRODUCTION TO JAVA & PLATFORM INDEPENDENCE

Section A: Multiple Choice Questions

1. What was the original name for Java during its development?
 - a) Oak
 - b) Spruce
 - c) Cedar
 - d) Maple
2. Who is known as the primary creator of the Java programming language?
 - a) Bill Gates
 - b) Linus Torvalds
 - c) James Gosling
 - d) Tim Berners-Lee
3. What is the primary function of the Java Virtual Machine (JVM)?
 - a) To compile Java source code
 - b) To execute Java bytecode
 - c) To provide a user interface for Java programs
 - d) To debug Java applications
4. Which of the following is responsible for making Java platform-independent?
 - a) Java Compiler
 - b) Java Virtual Machine
 - c) Java Runtime Environment
 - d) Java Development Kit
5. Which file is generated after the successful compilation of Java source code?

- a) .exe file
 - b) .java file
 - c) .class file
 - d) .bin file
6. Which statement accurately describes bytecode?
- a) Bytecode is specific to the operating system.
 - b) Bytecode can be directly executed by the CPU.
 - c) Bytecode is a set of instructions for the Java Virtual Machine.
 - d) Bytecode is platform-dependent.
7. What does the Java compiler do with the Java source code?
- a) Converts it to machine code
 - b) Converts it to JavaScript
 - c) Generates bytecode
 - d) Creates an executable file
8. Which type of Java program runs within a web browser and requires Java plugin to execute?
- a) Standalone application
 - b) Applet
 - c) Servlet
 - d) JavaBean
9. Which of the following best describes a standalone application in Java?
- a) It runs within a web browser.
 - b) It requires an internet connection for execution.
 - c) It operates independently on a local machine.
 - d) It relies on a web server for processing.
10. What is a primary limitation of applets compared to standalone applications?
- a) Applets cannot be written in Java.
 - b) Applets have limited access to system resources due to security restrictions.
 - c) Applets cannot be executed on any operating system.
 - d) Applets require internet connectivity for execution.
11. What is a primary advantage of Java's platform independence?
- a) It ensures high-speed execution of Java programs.
 - b) Java programs can only be run on a specific operating system.
 - c) It enables Java programs to access system resources directly.
 - d) Java programs are not bound to any particular hardware or operating system.
12. Java programs are both compiled and interpreted. What does the compilation phase in Java do?
- a) Converts Java source code into machine code
 - b) Transforms Java source code into bytecode
 - c) Executes the Java program line by line
 - d) Optimizes the code for better performance

Section B: Fill in the Blanks

1. The main function of the Java compiler is to convert Java source code into _____.
2. Java bytecode is executed by the _____ present in the Java Runtime Environment (JRE).
3. Java bytecode is designed to be Architecture _____ enabling it to run on different hardware architectures without requiring recompilation.
4. Unlike standalone applications, applets need to be embedded in _____ using HTML tag.
5. Java is considered a _____ language due to its ability to handle errors and exceptions effectively.
6. One of the key benefits of Java is its Platform _____ nature, allowing programs to run on various devices and operating systems without modification.
7. Java supports _____ execution, allowing multiple threads to run concurrently, enhancing program performance.

Section C: State True or False

1. Java source code is directly translated into machine code during the compilation phase.
2. Java is platform independent because of bytecode.
3. Applets have more direct access to system resources compared to standalone applications.
4. Standalone applications in Java are typically designed to be embedded within web pages and run in a web browser.
5. Java bytecode is platform-independent and can be executed directly by the CPU.
6. The Java interpreter or Just-In-Time (JIT) compiler in the JVM translates bytecode into machine code for execution.
7. Compiler converts machine language into high level language.

ANSWER KEY - CHAPTER 2

Section	Answers
Section A: MCQs	1. a) Oak 2. c) James Gosling 3. b) To execute Java bytecode 4. b) Java Virtual Machine 5. c) .class file 6. c) Bytecode is a set of instructions for the Java Virtual Machine. 7. c) Generates bytecode 8. b) Applet 9. c) It operates independently on a local machine. 10. b) Applets have limited access to system resources due to security restrictions. 11. d) Java programs are not bound to any particular hardware or

Section B: Fill in the Blanks	operating system. 12. b) Transforms Java source code into bytecode 1. Bytecode 2. Interpreter 3. Neutral 4. Web pages 5. Robust 6. Independent 7. Multithreaded
Section C: True or False	1. False 2. True 3. False 4. False 5. False 6. True 7. False

CHAPTER 3: CLASSES AND OBJECTS AS CONCEPTUAL ENTITIES

Section A: Multiple Choice Questions

1. What is a class in object-oriented programming?
 - a) A variable
 - b) A function
 - c) A blueprint or template for creating objects
 - d) A mathematical equation
2. Which of the following best describes an object in Java?
 - a) A blueprint for creating classes
 - b) An instance of a class with specific properties and behaviors
 - c) A method that defines class behavior
 - d) A reserved keyword in Java
3. Which of the following statement is incorrect for a class?
 - a) Any number of objects can be created for a class
 - b) A class defines blueprint for creating objects
 - c) A class is called object factory
 - d) A class contains only attributes or properties
4. A software object has

- a) class
- b) variables
- c) methods
- d) All of the above

Section B: Fill in the Blanks

1. The values of variables or fields specify the state of the _____.
2. _____ objects are the conceptual entities that may or may not be seen and cannot be touched.
3. In software, object stores its state in _____ and exposes its behavior through _____.
4. A _____ is considered as a blueprint of the object.
5. An _____ is a specific instance of a class, representing a unique entity with its own distinct data and behavior.

Section C: State True or False

1. A class is a collection of objects of similar type.
2. A class is an instance of an object.
3. Objects encapsulate data and behavior within a single unit.
4. An object is an instance of a class, representing a specific entity.
5. Each instance or object does not get its own copy of all the instance variables of the class.

ANSWER KEY - CHAPTER 3

Section	Answers
Section A: MCQs	1. c) A blueprint or template for creating objects 2. b) An instance of a class with specific properties and behaviors 3. d) A class contains only attributes or properties 4. d) All of the above
Section B: Fill in the Blanks	1. Object 2. Abstract 3. Variables, Methods 4. Class 5. Object
Section C: True or False	1. True 2. False 3. True 4. True 5. False

CHAPTER 4: JAVA TOKENS, DATA TYPES & VARIABLES

Section A: Multiple Choice Questions

1. Which character encoding does Java use by default for its characters?
 - a) UTF-8
 - b) ASCII
 - c) Unicode
 - d) ISO-8859-1
2. Which of the following statement is incorrect about keywords?
 - a) Keywords are written in lowercase letters
 - b) Keywords can be used as identifiers by changing one or more letters to uppercase
 - c) Keywords are also known as reserved words
 - d) The literal values true, false, and null are not keywords
3. The escape sequence for horizontal tab is
 - a) \h
 - b) \n
 - c) \t
 - d) \f
4. Which of the following is not a token in Java?
 - a) Keyword
 - b) Identifier
 - c) Operator
 - d) Directive
5. Which of the following is not a valid identifier in Java?
 - a) my_variable
 - b) 3variable
 - c) _variable
 - d) variable3
6. What is the size of the 'int' data type in Java?
 - a) 8 bits
 - b) 16 bits
 - c) 32 bits
 - d) 64 bits
7. Which data type in Java is used to store floating-point numbers with single precision?
 - a) double
 - b) float

- c) decimal
 - d) real
8. Which data type in Java is used to represent a single character?
- a) char
 - b) string
 - c) character
 - d) letter
9. Which data type in Java is used to represent true or false values?
- a) boolean
 - b) bit
 - c) logic
 - d) flag
10. Which data type in Java is used to store whole numbers without a fractional part?
- a) int
 - b) byte
 - c) short
 - d) All of the above
11. What is the default value of a boolean variable in Java if not initialized explicitly?
- a) true
 - b) false
 - c) 0
 - d) null
12. The largest integer data type in Java is
- a) long
 - b) short
 - c) byte
 - d) int
13. Which of the following is not a non-primitive data type?
- a) Class
 - b) Array
 - c) boolean
 - d) Interface
14. What is variable initialization in Java?
- a) Assigning a value to a variable
 - b) Creating a variable name
 - c) Reserving memory for a variable
 - d) Declaring the data type of a variable
15. What is the default initial value for an 'int' variable in Java if not explicitly initialized?

- a) 0
 - b) null
 - c) 0.0
 - d) false
16. Which of the following is a token?
- a) Literal
 - b) Separator
 - c) Operator
 - d) All of the above
17. Which among the following is a valid float literal?
- a) 12
 - b) 14.64f
 - c) 36
 - d) 0x6735
18. Multiline comment is given with
- a) `/* */`
 - b) `//`
 - c) `/** */`
 - d) none of the above

Section B: Fill in the Blanks

1. _____ tells about the size and type of values that can be stored in an identifier.
2. _____ is also known as reserved word in Java.
3. _____ are symbols used for performing various operations like addition, subtraction, etc.
4. A _____ literal consists of a single character enclosed in single quotes.
5. The data type used to store a wider range of decimal numbers with higher precision in Java is _____.
6. The keyword used to define a character data type in Java is _____.
7. The default initial value of data type - Object, if not explicitly initialized, is _____.
8. _____ a variable in Java means assigning an initial value to it.
9. In Java, a boolean variable defaults to the value _____ if not explicitly initialized.
10. _____ is the smallest individual unit of a program.
11. _____ are non-executable statements that are ignored by the compiler.
12. The variable declaration must end with a _____.

Section C: State True or False

1. Keywords can be used as names for variables and classes.
2. Separators are also known as punctuators.

3. A string literal is always enclosed in single quotes.
4. Boolean literal represents the value and not the variable.
5. The data type used to store single-precision floating-point numbers in Java is float.
6. Java's 'byte' data type can store values ranging from -128 to 127.
7. The 'boolean' data type is the non-primitive data type in Java.
8. In Java, a variable can be declared without specifying its data type.
9. Whenever the variable that is being declared is not initialised, it is assigned a default value by the compiler.
10. A literal is a constant value that cannot be changed.
11. Primitive data types are also known as reference types.

ANSWER KEY - CHAPTER 4

Section	Answers
Section A: MCQs	1. c) Unicode 2. b) Keywords can be used as identifiers by changing one or more letters to uppercase 3. c) \t 4. d) Directive 5. b) 3variable 6. c) 32 bits 7. b) float 8. a) char 9. a) boolean 10. d) All of the above 11. b) false 12. a) long 13. c) boolean 14. a) Assigning a value to a variable 15. a) 0 16. d) All of the above 17. b) 14.64f 18. a) /* */
Section B: Fill in the Blanks	1. Data Type 2. Keyword 3. Operators 4. Character 5. Double 6. Char 7. Null 8. Initializing 9. False

Section C: True or False

- 10. Token
- 11. Comments
- 12. Semi-colon

- 1. False
- 2. True
- 3. False
- 4. True
- 5. True
- 6. True
- 7. False
- 8. False
- 9. True
- 10. True
- 11. False

CHAPTER 5: OPERATORS & EXPRESSIONS IN JAVA

Section A: Multiple Choice Questions

1. Which of the following is a unary operator?

- a) +
- b) new
- c) <=
- d) ?:

2. What will be the value of x in the following code snippet?

```
int a = 10; int b = 3; int x = a / b;
```

- a) 3.333
- b) 3
- c) 3.0
- d) Compilation Error

3. What will be the value of c in the following code snippet?

```
int x = 12; int y = 5; int c = x % y;
```

- a) 2
- b) 2.4
- c) 2.5
- d) 2.0

4. Which operator in Java is used for incrementing a value by 1?

- a) +
- b) ++
- c) +=
- d) *=

5. What will be the output of the following code?

```
int a = 8; int b = 3; boolean c = a > 5 || b < 2; System.out.println(c);
```

- a) true
- b) false
- c) Compilation Error
- d) Runtime Error

6. What will be the result of the expression `!(5 > 3)` in Java?

- a) true
- b) false
- c) Compilation Error
- d) Runtime Error

7. Which operator is used for the addition assignment in Java?

- a) =+
- b) +=
- c) +
- d) ++=

8. What will be the output of the following code?

```
int a = 10; int b = ++a + 5; System.out.println(b);
```

- a) 15
- b) 16
- c) 20
- d) 21

9. What will be the value of p and q after the following code snippet?

```
int p = 7; int q = p--;
```

- a) 6, 7
- b) 7, 6
- c) 8, 9
- d) 5, 6

10. Which of the following is not a logical operator?

- a) &&
- b) ||
- c) !
- d) &

11. `(5 > 3) && (0 == 1)` evaluates to:

- a) 0
 - b) 1
 - c) true
 - d) false
12. If $x = 5$, value of $y = x++ + 2$ is:
- a) 5
 - b) 6
 - c) 7
 - d) none of the above
13. What will be the output of following code?
- ```
int a, b; a = 5; b = 0; b = a-- + --a; System.out.println(b);
```
- a) 11
  - b) 10
  - c) 8
  - d) 12
14.  $(95 + 5) * 20 / 4$  evaluates to:
- a) 50
  - b) 5
  - c) 4
  - d) 500
15. Which type of casting is necessary when converting a double to an int?
- a) Widening or Implicit Casting
  - b) Narrowing or Explicit Casting
  - c) Automatic Casting
  - d) No casting is required
16. What will happen if you try to assign a double value to an int variable without casting in Java?
- a) Compilation error
  - b) Truncation of decimal part will occur
  - c) Loss of precision may occur
  - d) The value will be automatically rounded off
17. What is the result of `int a = (int)8.75;` in Java?
- a) a will store 8
  - b) a will store 9
  - c) Compilation error
  - d) Runtime error
18. When the operators are having the same priority, they are evaluated from \_\_\_\_\_ in the order they appear in the expression.
- a) left to right
  - b) right to left

- c) any of the above
- d) none of the above

### Section B: Fill in the Blanks

1. Conditional operator (?:) is an alternative to \_\_\_\_\_ statement.
2. When a variable of lower data type is to be converted into a value of higher data type, the compiler performs \_\_\_\_\_ conversion.
3. In \_\_\_\_\_ increment operator ++ is written after the operand.
4. The \_\_\_\_\_ operator in Java creates an instance of a class.
5. The \_\_\_\_\_ operator is used to access members of an object.
6. The \_\_\_\_\_ operator in Java returns true only if both the operands are true.
7. An expression where operands are of different data type is called \_\_\_\_\_ expression.
8. The ternary operator takes \_\_\_\_\_ operands as input.
9. Operators with higher precedence are evaluated before the operators of \_\_\_\_\_ precedence.
10. The \_\_\_\_\_ type conversion is safe as it does not result in data loss.

### Section C: State True or False

1. The 'new' operator is a binary prefix operator used to create an object of class or an array.
2. Conditional operator (?:) is a binary operator that uses two operator symbols.
3. The precedence of addition (+) is higher than multiplication (\*).
4. The shorthand assignment operator makes the statement concise.
5. The == operator is an assignment operator.
6. The explicit conversion may result in the loss of information.
7. The result of relational operators is a boolean value.
8. Logical operators help us control the flow of execution of a program.
9. The NOT is a unary operator.
10. The logical AND operator returns true when either of the two conditions under evaluation is true.

### ANSWER KEY - CHAPTER 5

| Section         | Answers                                                                              |
|-----------------|--------------------------------------------------------------------------------------|
| Section A: MCQs | 1. b) new<br>2. b) 3<br>3. a) 2<br>4. b) ++<br>5. a) true<br>6. b) false<br>7. b) += |

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
|                               | 8. b) 16                                          |
|                               | 9. a) 6, 7                                        |
|                               | 10. d) &                                          |
|                               | 11. d) false                                      |
|                               | 12. c) 7                                          |
|                               | 13. c) 8                                          |
|                               | 14. d) 500                                        |
|                               | 15. b) Narrowing or Explicit Casting              |
|                               | 16. a) Compilation error                          |
|                               | 17. a) a will store 8                             |
|                               | 18. a) left to right                              |
| Section B: Fill in the Blanks | 1. if-else                                        |
|                               | 2. Implicit                                       |
|                               | 3. Post-increment                                 |
|                               | 4. new                                            |
|                               | 5. Dot (.)                                        |
|                               | 6. AND (&&)                                       |
|                               | 7. Mixed data type                                |
|                               | 8. Three                                          |
|                               | 9. Lower                                          |
|                               | 10. Implicit                                      |
| Section C: True or False      | 1. False (It is a unary operator)                 |
|                               | 2. False (It is a ternary operator)               |
|                               | 3. False                                          |
|                               | 4. True                                           |
|                               | 5. False (It is a relational comparison operator) |
|                               | 6. True                                           |
|                               | 7. True                                           |
|                               | 8. True                                           |
|                               | 9. True                                           |
|                               | 10. False                                         |

## CHAPTER 6: CLASSES AS USER-DEFINED DATA TYPES

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### Section A: Multiple Choice Questions

- The class header begins with
  - Opening curly brace
  - Closing curly brace
  - Parenthesis
  - Keyword - class

2. A variable declared inside a class is called
  - a) Local variable
  - b) Global variable
  - c) Instance variable
  - d) Class variable
3. The operator used to access the members of a class is
  - a) \*
  - b) ?:
  - c) .
  - d) +=
4. Which keyword is used to declare a class in Java?
  - a) method
  - b) class
  - c) object
  - d) define
5. An object of a class is created in Java using keyword
  - a) create
  - b) obj
  - c) initialise
  - d) new
6. Which of the following represents a correct field declaration in Java?
  - a) int a = 10;
  - b) float marks = 24.5f;
  - c) String name;
  - d) All of the above
7. The properties are implemented using \_\_\_\_\_ in Java.
  - a) Methods
  - b) Variables
  - c) Interface
  - d) All of the above
8. Which of the following is the correct & valid declaration of an object for class 'abc'?
  - a) abc obj = new abc;
  - b) abc = new obj;
  - c) obj = new abc();
  - d) abc obj = new abc();

## Section B: Fill in the Blanks

1. A \_\_\_\_\_ defines the behavior of an object.
2. The process of creating an object of a class is known as \_\_\_\_\_ an object.

3. A \_\_\_\_\_ forms the basis of all the computations in Java.
4. The \_\_\_\_\_ operator instantiates a class by allocating memory to the newly created object.
5. A class defines how an object will behave and what the object will \_\_\_\_\_.

### Section C: State True or False

1. The parameter-list is always enclosed within parenthesis.
2. The variables declared inside the class are called local variable.
3. A Java field is a variable declared inside a class.
4. The class definition ends with a semi-colon in Java.
5. A class is a construct that defines objects of different types.

## ANSWER KEY - CHAPTER 6

| Section                       | Answers                                                                                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section A: MCQs               | <ol style="list-style-type: none"> <li>1. d) Keyword - class</li> <li>2. c) Instance variable</li> <li>3. c) .</li> <li>4. b) class</li> <li>5. d) new</li> <li>6. d) All of the above</li> <li>7. b) Variables</li> <li>8. d) abc obj = new abc();</li> </ol> |
| Section B: Fill in the Blanks | <ol style="list-style-type: none"> <li>1. Method</li> <li>2. Instantiating</li> <li>3. Class</li> <li>4. new</li> <li>5. Contain</li> </ol>                                                                                                                    |
| Section C: True or False      | <ol style="list-style-type: none"> <li>1. True</li> <li>2. False (They are instance variables)</li> <li>3. True</li> <li>4. False</li> <li>5. False</li> </ol>                                                                                                 |

## CHAPTER 7: METHODS / FUNCTIONS IN JAVA

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### Section A: Multiple Choice Questions

1. A method call should not include

- a) return type
  - b) method name
  - c) parenthesis
  - d) semi colon
2. The return type of a method that does not return any value is
- a) int
  - b) char
  - c) float
  - d) void
3. Which of the following is a part of method signature?
- a) Method name and parameter list
  - b) Only method name
  - c) Return type, method name and parameter list
  - d) Only parameter list
4. In a method call, the values passed to the method are known as
- a) Actual parameters
  - b) Formal parameters
  - c) Dummy parameters
  - d) None of the above
5. In Java, the return type of a method is specified
- a) After the method name
  - b) Before the method name
  - c) Within parentheses
  - d) Within curly braces
6. Which keyword is used to return a value from a method?
- a) void
  - b) break
  - c) return
  - d) continue
7. Which of the following is not the benefit of using methods in a program?
- a) Modularity
  - b) Reusability
  - c) Readability
  - d) Prototype

## Section B: Fill in the Blanks

1. A method must be \_\_\_\_\_ to trigger its functionality.
2. A method declared as \_\_\_\_\_ does not contain a return statement.
3. In Java, a method's name along with its \_\_\_\_\_ constitutes its signature.

4. The parameters defined in the method declaration are known as \_\_\_\_\_ parameters.
5. A class cannot have two methods with same \_\_\_\_\_.
6. A method call must end with a \_\_\_\_\_.
7. The \_\_\_\_\_ in method declaration indicates the data type of the value that a method will return.
8. A method that is not declared void must contain a \_\_\_\_\_ statement with the corresponding return value.

### Section C: State True or False

1. The parameters declared in the method signature are global variables.
2. The parameters used in method call are called formal parameters.
3. Method signature is a part of method declaration.
4. A method declared as void does not return any value.
5. The user defined methods are pre-defined methods.
6. The method header is also known as method prototype.
7. The various parameters in method call are enclosed in curly braces and are separated by commas.
8. Whenever a method is invoked, the control is transferred to the first statement within the method body.
9. It is not mandatory for a method call to specify actual parameter for every formal parameter in method definition.
10. A method cannot have more than one return statement.
11. A method declared as 'int' can return a boolean value.

### ANSWER KEY - CHAPTER 7

| Section                       | Answers                                                                                                                                                                                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section A: MCQs               | <ol style="list-style-type: none"> <li>1. a) return type</li> <li>2. d) void</li> <li>3. a) Method name and parameter list</li> <li>4. a) Actual parameters</li> <li>5. b) Before the method name</li> <li>6. c) return</li> <li>7. d) Prototype</li> </ol> |
| Section B: Fill in the Blanks | <ol style="list-style-type: none"> <li>1. Called (or Invoked)</li> <li>2. Void</li> <li>3. Parameter list</li> <li>4. Formal</li> <li>5. Signature</li> <li>6. Semi colon</li> </ol>                                                                        |

Section C: True or False

7. Return type
8. Return
1. False
2. False (They are actual parameters)
3. True
4. True
5. False
6. True
7. False (Enclosed in parentheses)
8. True
9. False
10. False
11. False

## CHAPTER 8: PACKAGES AND ERROR HANDLING IN JAVA

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### Section A: Multiple Choice Questions

1. Packages in Java
  - a) Supports the concept of reusability and data hiding
  - b) Groups the related classes together
  - c) Resolves class name collision
  - d) All the above
2. The Java API package that is imported automatically in all programs is
  - a) java.awt
  - b) java.io
  - c) java.lang
  - d) java.applet
3. Which of the following classes is not present in java.util packages?
  - a) Date
  - b) Applet
  - c) Calendar
  - d) Arrays
4. Which of the following statements about packages in Java is true?
  - a) A package can contain only classes
  - b) A package can contain classes and sub-packages
  - c) A package can contain only interfaces
  - d) A package cannot contain any element

5. The keyword used to include a class or a package in a user program is
- a) include
  - b) package
  - c) import
  - d) define
6. Which of the following statement about packages in Java is not true?
- a) A package can only contain interfaces
  - b) A package can include classes, interfaces, enumerations, and sub-packages
  - c) A package can be imported in a user program using import keyword
  - d) The packages are organised in a hierarchical form like a directory structure
7. Which package contains Math class?
- a) java.awt
  - b) java.util
  - c) java.lang
  - d) java.io
8. The Calendar, Date and Time classes are present in
- a) java.awt package
  - b) java.io package
  - c) java.lang package
  - d) java.util package
9. The Scanner class is used to read input from:
- a) File
  - b) Keyboard
  - c) String
  - d) All the above
10. Which method of Scanner class is used to read a line of text as a string?
- a) next()
  - b) nextLine()
  - c) readLine()
  - d) readString()
11. Which Scanner method is used to read a single character from the input?
- a) nextChar()
  - b) readChar()
  - c) next().charAt(0) / next()
  - d) nextCharacter()
12. The \_\_\_\_\_ method of Scanner class allows us to input a number with a decimal point.
- a) next()
  - b) nextChar()

- c) nextFloat()
  - d) nextDecimal()
13. Which of the following is not a syntax error?
- a) Missing semi colon
  - b) Misspelled keyword
  - c) Use of undeclared variable
  - d) Dividing a number by zero
14. Which type of error in Java results in incorrect program behavior or output?
- a) Syntax error
  - b) Logical error
  - c) Runtime error
  - d) None of the above

### Section B: Fill in the Blanks

1. A \_\_\_\_\_ is used to group related classes based on their functionality.
2. The package that contains classes for implementing Graphical User Interface is \_\_\_\_\_.
3. The package that contains the Scanner class is \_\_\_\_\_.
4. An \_\_\_\_\_ is a fault or a problem in the program that produces unexpected or abnormal output.
5. Syntax errors are called \_\_\_\_\_ errors as these are detected by the compiler.
6. The nextFloat() method of Scanner class reads the next token as \_\_\_\_\_ value.
7. The runtime errors are also known as \_\_\_\_\_.
8. The \_\_\_\_\_ package is used by Java compiler itself.
9. The process of removing errors from a program is called \_\_\_\_\_.
10. The \_\_\_\_\_ is the standard input stream for accepting user input from a keyboard.
11. The \_\_\_\_\_ error in Java occurs at compile time and prevents the code from compiling.

### Section C: State True or False

1. Packages support the concept of reusability.
2. The packages created by the programmer for their own specific purpose are called Java API packages.
3. The java.net package contains classes for creating and implementing applets.
4. The Scanner class is used to accept the user input of primitive type as int, float, double, long, boolean and byte.
5. The nextInt() method of Scanner class reads a floating point (float) value.
6. Missing semi-colon in a statement is a runtime error.
7. Logical errors are neither detected by the Java compiler nor by the JVM.

8. The runtime errors are detected by the Java compiler.
9. The import statement can be used anywhere in the program.
10. The compile time errors are also known as Exceptions.

## ANSWER KEY - CHAPTER 8

| Section                       | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section A: MCQs               | <ol style="list-style-type: none"> <li>1. d) All the above</li> <li>2. c) java.lang</li> <li>3. b) Applet</li> <li>4. b) A package can contain classes and sub-packages</li> <li>5. c) import</li> <li>6. a) A package can only contain interfaces</li> <li>7. c) java.lang</li> <li>8. d) java.util package</li> <li>9. d) All the above</li> <li>10. b) nextLine()</li> <li>11. c) next() (or next().charAt(0))</li> <li>12. c) nextFloat()</li> <li>13. d) Dividing a number by zero (Runtime error)</li> <li>14. b) Logical error</li> </ol> |
| Section B: Fill in the Blanks | <ol style="list-style-type: none"> <li>1. Package</li> <li>2. java.awt</li> <li>3. java.util</li> <li>4. Error</li> <li>5. Compile time</li> <li>6. Float</li> <li>7. Exceptions</li> <li>8. java.lang</li> <li>9. Debugging</li> <li>10. System.in</li> <li>11. Syntax</li> </ol>                                                                                                                                                                                                                                                               |
| Section C: True or False      | <ol style="list-style-type: none"> <li>1. True</li> <li>2. False (They are user-defined packages)</li> <li>3. False</li> <li>4. True</li> <li>5. False</li> <li>6. False (It is a syntax error)</li> <li>7. True</li> <li>8. False</li> <li>9. False (Imports must be placed at the top)</li> <li>10. False (Runtime errors are exceptions)</li> </ol>                                                                                                                                                                                           |