

CLASS -10 (2025-26)

Values and Types

CHAPTER 3

Assignments:-

A. Tick (✓) the correct answers.

To store character values, a corresponding numeric value is generated in

- a. Decimal form
- b. Binary form
- c. ASCII
- d. UNICODE

Answer:- c. ASCII

How many escape sequence characters are there in Java?

- a. 7
- b. 10
- c. 8
- d. 12

Answer:- c. 8

Consider the following code:

```
datatype variable = (datatype) variable_to_be_converted;
```

Which of the following is represented in the preceding code?

- a. Type conversion
- b. Initialization
- c. Declaration
- d. Operation

Answer:- a. Type conversion

Which of the following is an example of a reference data type?

- a. int
- b. array
- c. float
- d. double

Answer:- b. array

Which of the following can be used while creating an identifier?

- a. Letters
- b. Underscore (_)
- c. Dollar (\$)
- d. All of these

Answer:- d. All of these

B. Fill in the blanks.

Character set in Java consists of **letters, digits, and special characters**.

Answer:- letters, digits, and special characters

Implicit type conversion takes place when the two types are **compatible**.

Answer:- compatible

Non-primitive data types are also called **reference** data types.

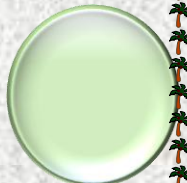
Answer:- reference

The size of the "short" data type is **less** than the "long" data type.

Answer:- less

null is a special Java literal which represents a null value.

Answer:- null



C. Short Answer Type Questions

Define String literals and boolean literals.

Answer:-

- **String literals** are sequences of characters enclosed in double quotes, such as "Hello".
- **Boolean literals** represent truth values in Java and can only be `true` or `false`.

Write the difference between declaration and initialization.

Answer:-

- **Declaration** is when a variable is defined with a type but not necessarily given a value (e.g., `int x;`).
- **Initialization** is when a declared variable is assigned a value (e.g., `x = 5;`).

3. Name the various types of tokens used in Java.

Answer:-

The different types of tokens in Java are:

- I. Keywords
- II. Identifiers
- III. Literals
- IV. Operators
- V. Separators

4. What is the use of "\n" in Java?

Answer:-

\n is an escape sequence used in Java to move the output cursor to the next line. It is used to break lines in console output.

What is the difference between variables and identifiers?

Answer:-

- A **variable** is a named location in memory used to store data during program execution.
- An **identifier** is the name given to elements like variables, classes, methods, etc.
So, all variables are identifiers, but not all identifiers are variables.

Assertion and Reason Questions with Options

1.

Assertion (A): Java uses UNICODE to represent character values.

Reason (R): UNICODE can represent characters from multiple languages around the world.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, but R is false
- d) A is false, but R is true

Answer:- a) Both A and R are true, and R is the correct explanation of A

2.

Assertion (A): Escape sequences in Java help in formatting output.

Reason (R): \n adds a new line, and \t adds a tab space in output.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, but R is false
- d) A is false, but R is true

Answer:- a) Both A and R are true, and R is the correct explanation of A



3.

Assertion (A): The expression `(datatype) variable_to_be_converted` is an example of type casting.

Reason (R): Type casting allows conversion of one data type into another in Java.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, but R is false
- d) A is false, but R is true

Answer:- a) Both A and R are true, and R is the correct explanation of A

4.

Assertion (A): Arrays are primitive data types in Java.

Reason (R): Arrays store a fixed number of elements of the same data type.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true

5.

Assertion (A): Identifiers in Java can start with a digit.

Reason (R): Identifiers may only contain letters, digits, underscores, and dollar signs.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true

6.

Assertion (A): Implicit type conversion happens when types are incompatible.

Reason (R): Java automatically converts smaller types to larger compatible types.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true

7.

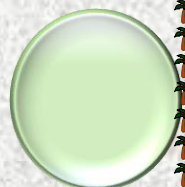
Assertion (A): The size of the `short` data type is greater than the `long` data type.

Reason (R): `long` takes 8 bytes whereas `short` takes only 2 bytes in Java.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true



8.

Assertion (A): `null` is a special keyword used for primitive data types.

Reason (R): `null` represents a value that points to no object in Java.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true

9.

Assertion (A): Declaration and initialization in Java are the same thing.

Reason (R): Declaration reserves memory, while initialization assigns a value to that memory.

Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is false, but R is true
- d) A is true, but R is false

Answer:- c) A is false, but R is true

10.

Assertion (A): In Java, variables and identifiers are different concepts.

Reason (R): Identifiers are names given to various program elements, and variables are just one of them.

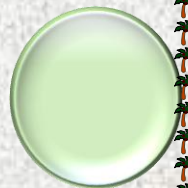
Options:

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, but R is false
- d) A is false, but R is true

Answer:- a) Both A and R are true, and R is the correct explanation of A

One-word questions and answers

- 1. **Q:** Character encoding used in Java?
A: UNICODE
- 2. **Q:** Special literal representing no value?
A: null
- 3. **Q:** Type of conversion done automatically by Java?
A: Implicit
- 4. **Q:** Data type category of array in Java?
A: Reference
- 5. **Q:** Symbol for new line in Java?
A: \n
- 6. **Q:** Category of data types like `int`, `char`, `float`?
A: Primitive
- 7. **Q:** What starts variable names in Java?
A: Letter
- 8. **Q:** Token type for `+`, `-`, `*`, `/` in Java?
A: Operator



9. **Q:** Data type that uses 8 bytes in Java?
A: long
10. **Q:** Grouping of keywords, identifiers, literals, etc.?
A: Tokens
11. **Q:** What symbol is used for tab space in Java?
A: \t
12. **Q:** What is the smallest integer data type in Java?
A: byte
13. **Q:** What keyword is used to define a constant in Java?
A: final
14. **Q:** What type of data type is String in Java?
A: Reference
15. **Q:** What is the process of converting one data type to another manually?
A: Casting
16. **Q:** Which data type holds true or false values?
A: boolean
17. **Q:** Which escape character is used for backspace?
A: \b
18. **Q:** What keyword is used to declare a variable in Java?
A: int (or any other datatype like float, char, etc.)
19. **Q:** What do you call a name used to represent variables, methods, or classes?
A: Identifier
20. **Q:** What is the default value of an uninitialized reference variable?
A: null

Fill in the Blanks (with Answers)

1. Java uses UNICODE to store character values.
Answer: UNICODE
2. The special literal that represents a null value in Java is null.
Answer: null
3. Implicit type conversion is automatically performed by Java when compatible types are used.
Answer: Implicit
4. Arrays are examples of reference data types in Java.
Answer: reference
5. The escape character \n is used to insert a new line.
Answer: new line
6. Java character set includes letters, digits, and special characters.
Answer: special characters
7. Tokens are the smallest meaningful elements in a Java program.
Answer: Tokens
8. A variable name in Java must begin with a letter, underscore, or dollar sign.
Answer: letter
9. Java keywords like if, class, and while are reserved words.
Answer: words
10. The keyword used to declare a constant value is final.
Answer: final
11. The default value of an uninitialized reference variable is null.
Answer: null
12. The process of manually converting one data type to another is called casting.
Answer: casting

13. The escape character \t is used to insert a tab space.

Answer: tab space

14. A data type that holds true or false values is called boolean.

Answer: boolean

15. Byte is the smallest integer data type in Java.

Answer: byte

16. A **primitive** data type is predefined by the language and is not an object.

Answer: primitive

17. Identifiers are the names given to variables, methods, classes, etc.

Answer: names

18. The data type that uses 8 bytes of memory is long.

Answer: long

19. The escape character used for backspace is \b.

Answer: \b

20. A reference data type refers to an object or array in memory.

Answer: reference