Class 9

Chapter 4

Values and Types

A. Tick (✓) the correct answer

1. Java has a total of Escape Sequences.
   ☞ **c. eight**
2. `Datatype variable = (datatype)variable_to_be_converted;` is the syntax of
   ☞ **a. type conversion**
3. "Array" is an example of
   ☞ **b. Non-primitive data type**
4. While naming an identifier, we must start with
   ☞ **a. letter**
5. Which of the following is special character that separate tokens?
   ☞ **c. Delimiter**
6. Primitive data types in ascending order: byte <
   ☞ **d. short**
7. 0.5 is a _____ literal.
   ☞ **c. real**
8. Which of the following is also called type casting?
   ☞ **a. type conversion**
9. "Object" is an example of
   ☞ **b. non-primitive data type**
10. 0.0f is default value of _____ data type.
    ☞ **b. float**
11. There are _____ data types in Java.
    ☞ **a. two** (primitive & non-primitive)
12. "++" is known as
    ☞ **c. increment operator**
13. _____ used to separate the variable.
    ☞ **a. separators**

B. Fill in the blanks

1. Implicit Type conversion takes place when the two types are **compatible**.
2. Non-Primitive data types are also called **reference** data types.
3. Size of "short" data type is **smaller** than "long" data type.
4. **null** is a special Java literal which represents a null value.
5. Range of byte is **–128 to 127**.

6. **0 and 1** are binary digits.
7. Syntax of assign character 'A' to ch: **char ch = 'A';**
8. A variable is available to the entire class → **static variable**.
9. In primitive data types, the memory is of **fixed** size.
10. A **static** member can be accessed by static methods only.

C. Short Answer type questions

1. Define literals. Also, define real and boolean literals.

- **Literals** are constant values assigned to variables.
- **Real literal**: Represents floating-point numbers (e.g., `3.14`, `0.5`).
- **Boolean literal**: Represents truth values (`true` or `false`).

2. Write the difference between declaration and initialization.

- **Declaration**: Creating a variable with data type (e.g., `int a;`).
- **Initialization**: Assigning a value to a variable (e.g., `a = 10;`).

3. What is the use of `\t` and `\n` in Java?

- `\t` → Inserts a **tab space**.
- `\n` → Moves the cursor to the **next line**.

4. Define Operators. Name the three types of Operators.

- **Operators** are special symbols that perform operations on variables/values.
- Three types:
    1. Arithmetic Operators (+, -, *, /, %)
    2. Relational Operators (>, <, ==, !=)
    3. Logical Operators (&&, ||, !)

5. Define separators and punctuators.

- **Separators (Delimiters)**: Characters used to separate statements (e.g., `;` `,` `(` `)` `{` `}`).
- **Punctuators**: Same as separators, they structure code into blocks/statements.

6. What is the size of the following in terms of bits.
a. short → **16 bits**
b. double → **64 bits**
c. int → **32 bits**
d. char → **16 bits**

7. Define escape sequence. Give two examples.

- **Escape sequence**: A character preceded by `\` which has a special meaning in Java.
- Examples: `\n` (new line), `\t` (tab).

8. What are the types of casting shown in the following examples?

a. `int a = (int)5.6;` → **Explicit type casting**

b. `long l = 4;` → **Implicit type casting (widening)**

9. Give one example of primitive and composite data types.

- Primitive: `int a = 10;`
- Composite: `int arr[] = {1, 2, 3};`

10. What is the meaning of composite data types? Name some composite data types.

- **Composite data types** are built using primitive data types.
- Examples: **Array, Class, Interface, String, Object**.