Class 9

Chapter 6(2026-27)

Input in Java

✅ A. Tick (✓) the correct answer

1. int a = 30 contains which type of error?

a. Syntax
b. Runtime
c. Logical
d. Output

Answer: a. Syntax ✅
Explanation: Missing semicolon → syntax error.

2. Scanner sc = new Scanner(System.in) is a _____ error.

a. Syntax
b. Runtime
c. Logical
d. Type

Answer: a. Syntax ✅
Explanation: If semicolon or import missing → syntax issue.

3. int a = 5.6; is a _____ error.

a. Syntax
b. Runtime
c. Logical
d. Type

Answer: d. Type ✅
Explanation: Assigning decimal to int → type mismatch.

4. Which of the following is a beginning of a comment?

a. //
b. ///
c. /***
d. /*

Answer: a. // and d. /* ✓
Explanation: Both are valid comment starters.

5. Which of the following methods is used to input a double value using Scanner class?

a. next()
b. nextInt()
c. nextDouble()
d. nextFloat()

Answer: c. nextDouble() ✓

✓ B. Fill in the blanks

---

1. Three types of errors are _____, _____ and _____.

Answer: Syntax, Logical, Runtime

2. Using InputStreamReader class, values are taken from the users whenever required at the time of _____.

Answer: execution

3. All input values taken from the user are initially in the form of _____.

Answer: string

4. The method Float.parseFloat(br.readLine()); will return a _____ value.

Answer: float

5. _____ is the process of identifying errors in the program code.

Answer: Debugging

✓ C. Answer the following questions

---

1. What is the difference between Single-line comment, Multiline comment and Documentation Comment?

Answer:

- Single-line → `// comment`
- Multi-line → `/* comment */`
- Documentation → `/** comment */`

2. What is the difference between Syntax error, Logical error and Runtime error?

Syntax	Logical	Runtime
Grammar mistake	Wrong logic	Error during execution

3. What is InputStreamReader?

Answer:
It is used to read input from keyboard as characters.

4. Write the difference between try and catch.

- try → contains risky code
- catch → handles error

5. What are Java Comments?

Answer:
Comments are non-executable statements used for explanation.

6. Write an example of a runtime error.

Answer:
Division by zero

7. Name the methods of Scanner class that is:

a. Used to input an integer value → **nextInt()**
b. Used to input a line → **nextLine()**
c. Used to input a character → **next().charAt(0)**
d. Used to input a real number of 64 bits → **nextDouble()**
e. Used to input a short integer → **nextShort()**

8. What do you mean by debugging?

Answer:
Debugging means finding and fixing errors in a program.

✓ D. Assertion and Reasoning based question

Options:
a. Both A and R are true and R is correct explanation
b. Both A and R are true but not correct explanation
c. A is true, R is false
d. A is false, R is true

Assertion (A): Debugging is a process of fixing the errors found while the code was undergoing the testing phase.
Reason (R): This is done mainly to remove the errors.

Answer: a. Both A and R are true and R is correct explanation ✅

✅ E. More unsolved programs (Answers provided)

---

1. Interchange two numbers (using third variable)

```
class Swap
{
    public static void main(String args[])
    {
        int a = 5, b = 10, temp;

        temp = a;
        a = b;
        b = temp;

        System.out.println("After swapping:");
        System.out.println("a = " + a);
        System.out.println("b = " + b);
    }
}
```

---

2. Cost price → Selling price and profit %

```
class Profit
{
    public static void main(String args[])
    {
        int cp = 500;
        int profit = 50;

        int sp = cp + profit;
        double profitPercent = (profit * 100.0) / cp;

        System.out.println("Selling Price = " + sp);
        System.out.println("Profit % = " + profitPercent);
    }
}
```

---

3. Convert days into years and months

```
class DaysConvert
{
    public static void main(String args[])
    {
        int days = 400;

        int years = days / 365;
        int months = (days % 365) / 30;

        System.out.println("Years = " + years);
        System.out.println("Months = " + months);
    }
}
```

---

4. Square → diagonal and perimeter

```
class Square
{
    public static void main(String args[])
    {
        int side = 4;

        double diagonal = Math.sqrt(2) * side;
        int perimeter = 4 * side;

        System.out.println("Diagonal = " + diagonal);
        System.out.println("Perimeter = " + perimeter);
    }
}
```

---

5. Monthly income and tax

```
class Income
{
    public static void main(String args[])
    {
        int daily = 500;
        int monthly = daily * 30;

        System.out.println("Monthly Income = " + monthly);

        if(monthly > 10000)
        {
            System.out.println("Tax to pay = 500");
        }
        else
        {
            System.out.println("No Tax");
        }
    }
}
```

---

6. Discount + GST calculation

```
class Bill
{
    public static void main(String args[])
    {
        double price = 1000;

        double discount = price * 0.15;
```

```
        double afterDiscount = price - discount;
        double gst = afterDiscount * 0.18;

        double finalAmount = afterDiscount + gst;

        System.out.println("Final Amount = " + finalAmount);
    }
}
```

---

7. Distance conversion (meter → km)

```
class Distance
{
    public static void main(String args[])
    {
        int meter = 1000;

        double km = meter / 1000.0;

        System.out.println("Distance in km = " + km);
    }
}
```

---

8. Temperature conversion (F → C)

```
class Temperature
{
    public static void main(String args[])
    {
        double f = 100;

        double c = (f - 32) * 5 / 9;

        System.out.println("Temperature in Celsius = " + c);
    }
}
```

Class 9

Chapter 6(2025-26)

Input in Java

A. Tick (✓) the correct answer

1. `int a = 30 contains which type of error?`
   ☞ **d. None** (no error)
2. `Scanner sc = new Scanner(System.in)` is a error
   ☞ **d. None** (correct syntax)
3. `int a = 5.6` is a error
   ☞ **a. Syntax** (wrong data type assignment)
4. Which of the following is a comment?
   ☞ **a. //**
5. Which method is used to input a word using Scanner?
   ☞ **a. next()**

B. Fill in the blanks

1. Three types of errors are **Syntax, Runtime and Logical**.
2. Using **InputStreamReader** class values are taken from the users whenever required at the time of **execution**.
3. The word **Exception** inform the compiler that an error has occurred.
4. **java.util** package is used for Scanner class.
5. **nextFloat()** is used to input values in **float** format in the main() method.

C. Short Answer Questions

1. Difference between comments:

- **Single-line comment**: `//` comment until end of line.
- **Multiline comment**: `/* … */` covers many lines.
- **Documentation comment**: `/** … */` used to generate JavaDocs.

2. Difference between errors:

- **Syntax error**: Wrong code structure (compiler detects).
- **Runtime error**: Error during execution (e.g. divide by zero).
- **Logical error**: Program runs but gives wrong result.

3. InputStreamReader:
A bridge from byte stream to character stream; reads input from keyboard as characters.

4. Difference between try and catch:

- **try**: Block of code that may cause an exception.
- **catch**: Handles the exception thrown in try block.

5. Java Comments:
Non-executable text in program for explanation (`//`, `/*…*/`, `/**…*/`).

6. Runtime error:
Error during program execution.
Example: `int x = 10/0;` → ArithmeticException.

7. Package containing Scanner class:
☞ **java.util**

8. Methods of Scanner class:
a. Integer value → **nextInt()**
b. Sentence → **nextLine()**
c. Character → **next().charAt(0)**
d. Real number (64-bit) → **nextDouble()**
e. Short integer → **nextShort()**

9. Use of `import` keyword:
To include external classes or packages into a Java program.

10. Define:

- **nextInt()** → Inputs an integer value.
- **nextFloat()** → Inputs a floating-point number (32-bit).

D. More Unsolved Programs (Solved)

1. Total and Average of 3 subjects

```
import java.util.Scanner;
class Marks {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter 3 subjects marks: ");
    int a = sc.nextInt(), b = sc.nextInt(), c = sc.nextInt();
    int total = a + b + c;
    double avg = total / 3.0;
    System.out.println("Total = " + total);
    System.out.println("Average = " + avg);
  }
}
```

---

2. Interchange values (3rd variable)

```
import java.util.Scanner;
class Swap {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    int a = sc.nextInt(), b = sc.nextInt();
    int temp = a; a = b; b = temp;
    System.out.println("a=" + a + ", b=" + b);
  }
```

```
}
```

---

3. Selling price and profit %

```
import java.util.Scanner;
class Profit {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    double cp = sc.nextDouble();
    double sp = cp + 50;
    double profitPercent = (50 / cp) * 100;
    System.out.println("Selling Price = " + sp);
    System.out.println("Profit % = " + profitPercent);
  }
}
```

---

4. Compound Interest & Amount

```
import java.util.Scanner;
class Compound {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    double p = sc.nextDouble(), r = sc.nextDouble(), t =
sc.nextDouble();
    double ci = p * (Math.pow((1 + r / 100), t) - 1);
    double amt = p + ci;
    System.out.println("CI = " + ci + ", Amount = " + amt);
  }
}
```

---

5. Convert days → years, months, days

```
import java.util.Scanner;
class DaysConvert {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    int days = sc.nextInt();
    int years = days / 365;
    int months = (days % 365) / 30;
    int d = (days % 365) % 30;
    System.out.println(years+" years "+months+" months "+d+" days");
  }
}
```

---

6. Square side → diagonal & perimeter

```
import java.util.Scanner;
class Square {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    double side = sc.nextDouble();
    double diag = side * Math.sqrt(2);
    double peri = 4 * side;
    System.out.println("Diagonal = " + diag);
```

```
    System.out.println("Perimeter = " + peri);
  }
}
```

---

7. Labour monthly income & tax

```
import java.util.Scanner;
class Labour {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    String name = sc.nextLine();
    double daily = sc.nextDouble();
    double income = daily * 30;
    if(income > 10000) income -= 500;
    System.out.println("Name: "+name+" Monthly Income: "+income);
  }
}
```

---

8. Discount & GST

```
import java.util.Scanner;
class Discount {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    String name = sc.nextLine();
    double price = sc.nextDouble();
    double discount = price * 0.15;
    double net = price - discount;
    double gst = net * 0.18;
    double amt = net + gst;
    System.out.println("Customer: "+name+" Amount: "+amt);
  }
}
```

---

9. Distance → Cost

```
import java.util.Scanner;
class Travel {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    double m = sc.nextDouble();
    double km = m / 1000;
    double cost = km * 10;
    System.out.println("Distance = " + km + " km, Cost = Rs." + cost);
  }
}
```

---

10. Fahrenheit ↔ Celsius

```
import java.util.Scanner;
class Temp {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter 1 for F→C, 2 for C→F: ");
```

```
            int ch = sc.nextInt();
            if(ch==1){
              double f = sc.nextDouble();
              double c = (f-32)*5/9;
              System.out.println("Celsius = "+c);
            }
            else if(ch==2){
              double c = sc.nextDouble();
              double f = (c*9/5)+32;
              System.out.println("Fahrenheit = "+f);
            }
            else System.out.println("Invalid choice");
          }
        }
```