

LAB-TEST-02

1)



The screenshot shows an online Java compiler interface. The code editor on the left contains a Java program named `ArithmeticOperations`. The program prompts the user to enter two numbers, performs addition, subtraction, multiplication, and division, and handles a division-by-zero error. The output panel on the right shows the results of the program execution.

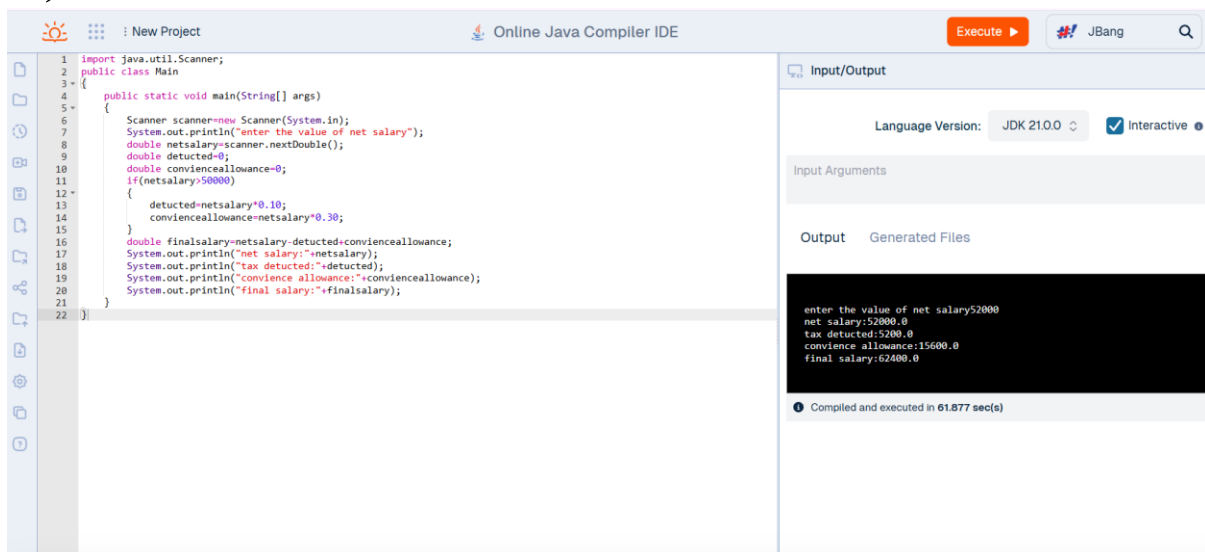
```
1 import java.util.Scanner;
2 public class ArithmeticOperations {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.print("Enter the first number: ");
6         int A = sc.nextInt();
7         System.out.print("Enter the second number: ");
8         int B = sc.nextInt();
9         System.out.println("Addition: " + (A+B));
10        System.out.println("Subtraction: " + (A-B));
11        System.out.println("Multiplication: " + (A*B));
12        if (B != 0) {
13            System.out.println("Division: " + ((float)A/B));
14        } else {
15            System.out.println("Cannot divide by zero.");
16        }
17        sc.close();
18    }
19 }
20
```

Output:

```
Enter the first number: 2
Enter the second number: 3
Addition: 5
Subtraction: -1
Multiplication: 6
Division: 0.6666667
```

Compiled and executed in 22.326 sec(s)

2)



The screenshot shows an online Java compiler interface. The code editor on the left contains a Java program named `Main`. The program prompts the user to enter a net salary, calculates tax deducted, convenience allowance, and final salary based on the input. The output panel on the right shows the results of the program execution.

```
1 import java.util.Scanner;
2 public class Main {
3     public static void main(String[] args) {
4         Scanner scanner = new Scanner(System.in);
5         System.out.println("enter the value of net salary");
6         double netsalary = scanner.nextDouble();
7         double deducted = 0;
8         double convenienceallowance = 0;
9         if (netsalary > 50000) {
10             deducted = netsalary * 0.10;
11             convenienceallowance = netsalary * 0.30;
12         }
13         double finalsary = netsalary - deducted + convenienceallowance;
14         System.out.println("net salary: " + netsalary);
15         System.out.println("tax deducted: " + deducted);
16         System.out.println("convenience allowance: " + convenienceallowance);
17         System.out.println("final salary: " + finalsary);
18     }
19 }
20
21
22
```

Output:

```
enter the value of net salary: 52000
net salary: 52000.0
tax deducted: 5200.0
convenience allowance: 15600.0
final salary: 62400.0
```

Compiled and executed in 61.877 sec(s)

3)

The screenshot shows an online Java compiler interface. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 public class Main {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.print("Enter P, T, R: ");
6         double P = sc.nextDouble(), T = sc.nextDouble(), R = sc.nextDouble();
7         System.out.println("Simple Interest: " + (P * T * R) / 100);
8         System.out.print("Enter n: ");
9         int n = sc.nextInt();
10        double compoundAmount = P * Math.pow(1 + (R / 100) / n, n * T);
11        System.out.println("Compound Interest: " + (compoundAmount - P));
12        System.out.println("Total Amount: " + compoundAmount);
13        sc.close();
14    }
15 }
16

```

The right-hand panel shows the 'Input/Output' section. The 'Language Version' is set to 'JDK 21.0.0' and 'Interactive' is checked. The 'Output' tab is active, displaying the following text:

```

Enter P, T, R: 2 3 4
Simple Interest: 0.24
Enter n: 3
Compound Interest: 0.25320629388660726
Total Amount: 2.2532062938866073

```

Below the output, it states: 'Compiled and executed in 18.85 sec(s)'.

4)

The screenshot shows an online Java compiler interface. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 public class MonthDisplay {
3     public static void main(String[] args) {
4         Scanner scanner = new Scanner(System.in);
5         System.out.print("Enter a number (1-12) to display the month: ");
6         int monthNumber = scanner.nextInt();
7         String monthName;
8         switch (monthNumber) {
9             case 1:
10                monthName = "January";
11                break;
12             case 2:
13                monthName = "February";
14                break;
15             case 3:
16                monthName = "March";
17                break;
18             case 4:
19                monthName = "April";
20                break;
21             case 5:
22                monthName = "May";
23                break;
24             case 6:
25                monthName = "June";
26                break;
27             case 7:
28                monthName = "July";
29                break;
30             case 8:
31                monthName = "August";
32                break;
33             case 9:
34                monthName = "September";
35                break;
36             case 10:
37                monthName = "October";
38                break;
39             case 11:
40                monthName = "November";
41                break;
42             case 12:
43                monthName = "December";
44                break;
45             default:
46                monthName = "Invalid month number! Please enter a number between 1 and 12.";
47                break;
48        }
49        System.out.println(monthName);
50    }
51 }

```

The right-hand panel shows the 'Input/Output' section. The 'Language Version' is set to 'JDK 21.0.0' and 'Interactive' is checked. The 'Output' tab is active, displaying the following text:

```

Enter a number (1-12) to display the month: 3
March

```

Below the output, it states: 'Compiled and executed in 6.869 sec(s)'.

5)

The screenshot shows the Online Java Compiler IDE interface. The code editor on the left contains a Java program named `StringOperations`. The program uses `java.util.Scanner` to take input from the user. It performs the following operations: reverses the input string, converts it to uppercase and lowercase, and prints the original string, reversed string, length, and both cases. The right sidebar shows the 'Input/Output' panel with the 'Output' tab selected, displaying the program's execution results for the input 'LISTEN'.

```

1 import java.util.Scanner;
2
3 public class StringOperations {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a string: ");
8         String input = scanner.nextLine();
9
10        String reversed = new StringBuilder(input).reverse().toString();
11        int length = input.length();
12        String upperCase = input.toUpperCase();
13        String lowerCase = input.toLowerCase();
14
15        System.out.println("Original String: " + input);
16        System.out.println("Reversed String: " + reversed);
17        System.out.println("Length of String: " + length);
18        System.out.println("Upper Case: " + upperCase);
19        System.out.println("Lower Case: " + lowerCase);
20
21        scanner.close();
22    }
23 }
24

```

Output:

```

Enter a string: LISTEN
Original String: LISTEN
Reversed String: NETSIL
Length of String: 6
Upper Case: LISTEN
Lower Case: listen

```

Compiled and executed in 93.866 sec(s)

6)

The screenshot shows the Online Java Compiler IDE interface. The code editor on the left contains a Java program named `Main`. The program uses `java.util.Scanner` to take input for class marks and model marks. It calculates the total marks and prints the class mark, model mark, total marks, and a distinction based on the total marks. The right sidebar shows the 'Input/Output' panel with the 'Output' tab selected, displaying the program's execution results for the input '18' for class mark and '50' for model mark.

```

1 import java.util.Scanner;
2 public class Main {
3     public static void main(String[] args) {
4         Scanner scanner = new Scanner(System.in);
5
6         System.out.print("Enter class mark1: ");
7         int classMark1 = scanner.nextInt();
8         System.out.print("Enter class mark2: ");
9         int classMark2 = scanner.nextInt();
10        System.out.print("Enter model marks: ");
11        int modelMarks = scanner.nextInt();
12        int totalMarks = classMark1 + classMark2 + modelMarks;
13        System.out.println("Class mark1: " + classMark1);
14        System.out.println("Class mark2: " + classMark2);
15        System.out.println("Model marks: " + modelMarks);
16        System.out.println("Total Marks: " + totalMarks);
17        if (totalMarks > 75) {
18            System.out.println("Distinction");
19        } else if (totalMarks > 60 && totalMarks <= 70) {
20            System.out.println("First Class");
21        } else if (totalMarks > 50 && totalMarks <= 60) {
22            System.out.println("Second Class");
23        } else {
24            System.out.println("Fail");
25        }
26        scanner.close();
27    }
28 }

```

Output:

```

Enter class mark1: 18
Enter class mark2: 50
Enter model marks: 50
Class mark1: 18
Class mark2: 50
Model marks: 50
Total Marks: 88
Distinction

```

Compiled and executed in 27.387 sec(s)