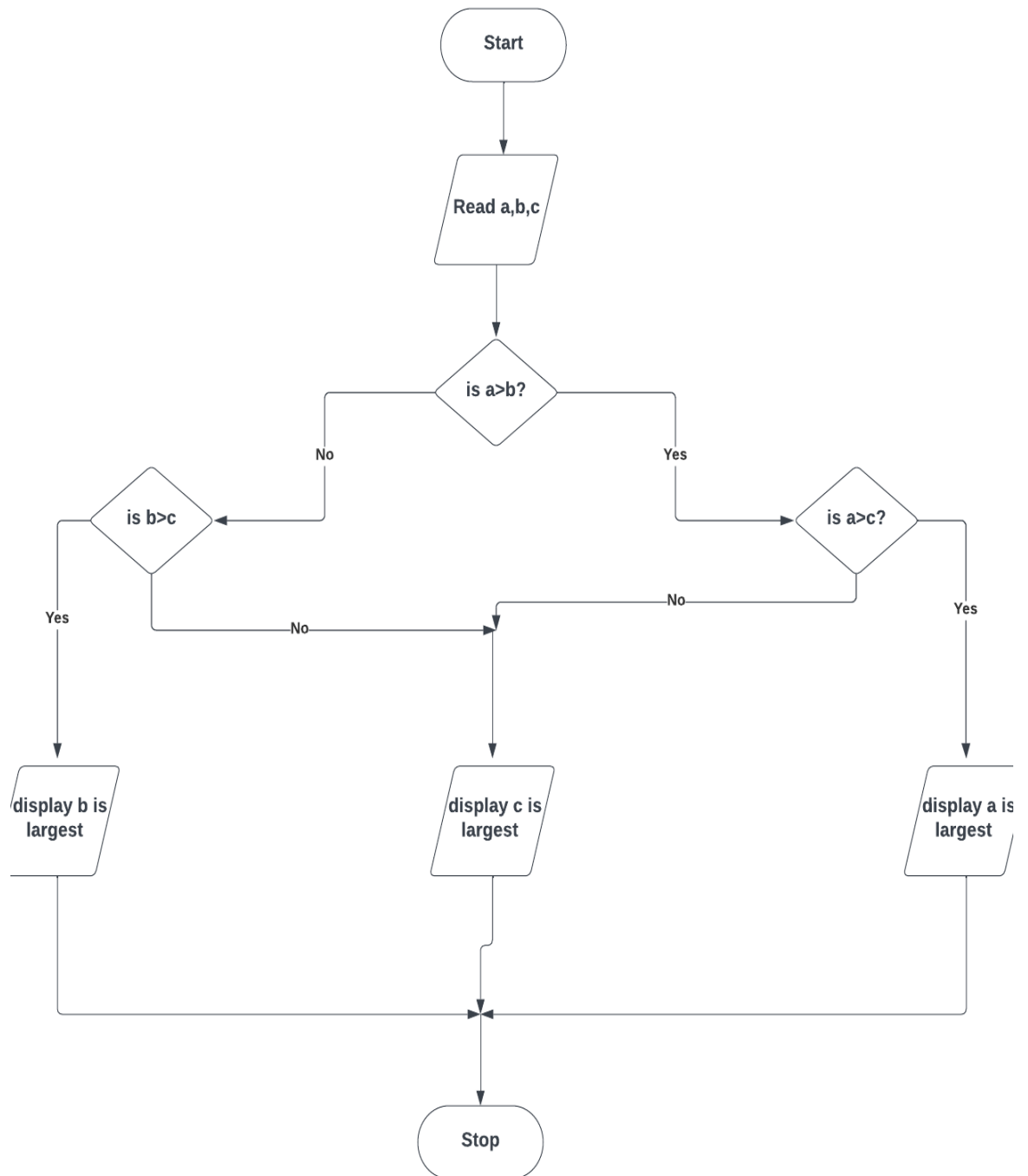


Name: Rupa Karella
Day1 Tasks

1. a.Flowchart to find the largest among three numbers



b. Algorithm to find the largest among three numbers

Step 1: Begin

2: Read a,b,c

3: if a>b

3.1: if a>c

3.1.a: Display a is largest

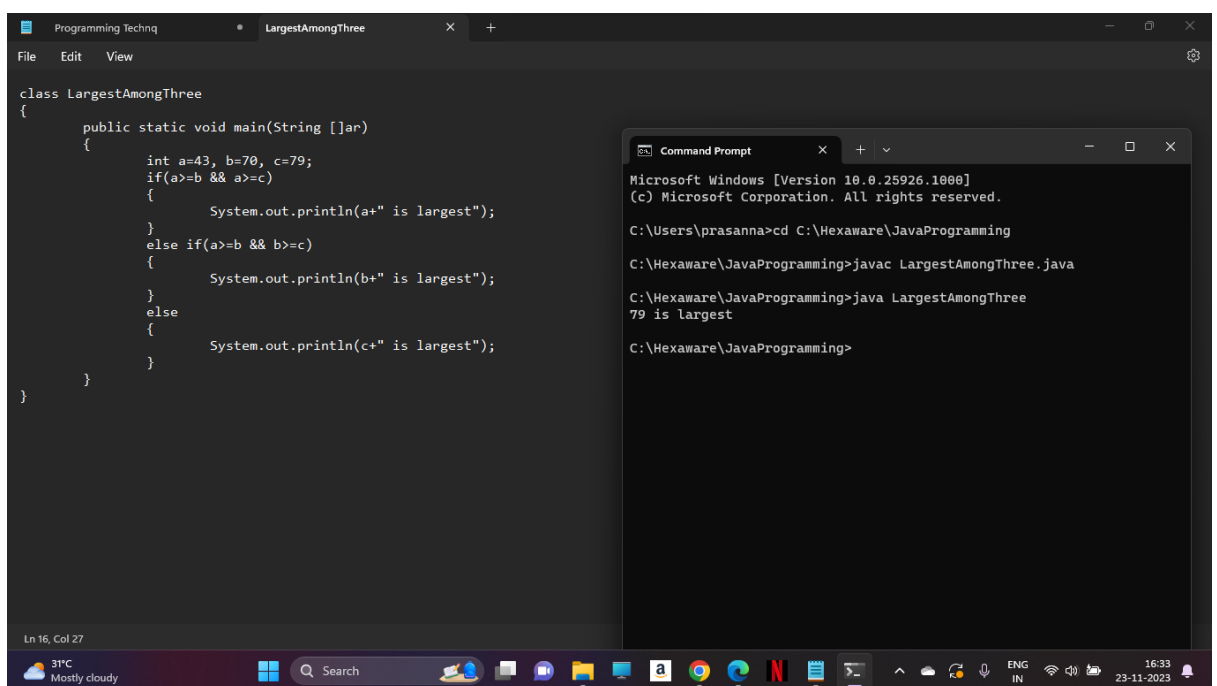
3.2: else if b>c

3.2.a: Display b is largest

3.3: else Display c is largest

4: End.

c. Java program to find the largest among three numbers



The screenshot displays a Java IDE window titled 'LargestAmongThree' with the following code:

```
class LargestAmongThree
{
    public static void main(String []ar)
    {
        int a=43, b=70, c=79;
        if(a>b && a>c)
        {
            System.out.println(a+" is largest");
        }
        else if(a>b && b>c)
        {
            System.out.println(b+" is largest");
        }
        else
        {
            System.out.println(c+" is largest");
        }
    }
}
```

Below the IDE, a Command Prompt window shows the execution steps:

```
Microsoft Windows [Version 10.0.25926.1000]
(c) Microsoft Corporation. All rights reserved.

C:\Users\prasanna>cd C:\Hexaware\JavaProgramming

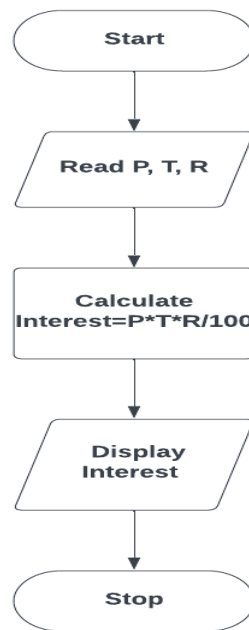
C:\Hexaware\JavaProgramming>javac LargestAmongThree.java

C:\Hexaware\JavaProgramming>java LargestAmongThree
79 is largest

C:\Hexaware\JavaProgramming>
```

The Windows taskbar at the bottom shows the date as 23-11-2023 and the time as 16:33.

2. a. Flowchart to find the Simple Interest



b. Algorithm to find the Simple Interest

Step 1: Begin

2: Read P, T, R

3: Calculate Interest= $P \times T \times R / 100$

4: Display Interest

5: End.

c. Java program to find the Simple Interest

```
class SimpleInterest
{
    public static void main(String []ar)
    {
        int P=10000, T=3, R=2;
        double Interest;
        Interest= P*T*R/100;
        System.out.println("Interest is "+Interest);
    }
}
```

```
Microsoft Windows [Version 10.0.25926.1000]
(c) Microsoft Corporation. All rights reserved.

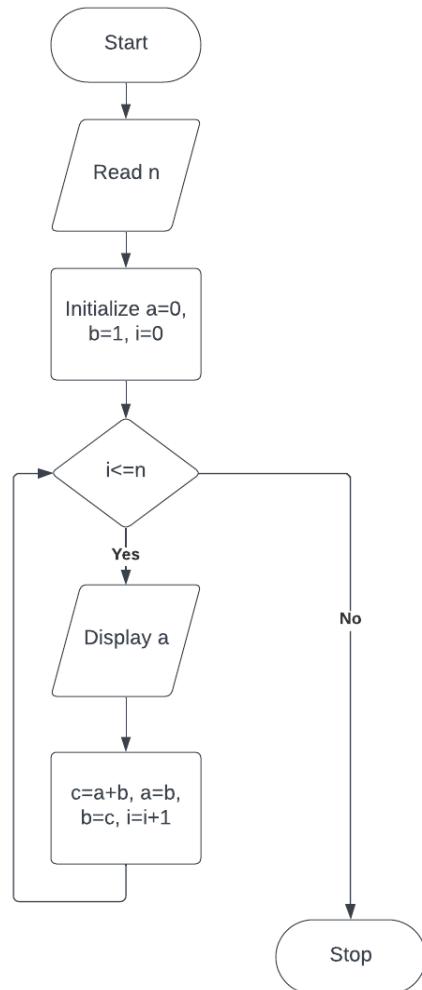
C:\Users\prasanna>cd C:\Hexaware\JavaProgramming

C:\Hexaware\JavaProgramming>java SimpleInterest
Interest is 600.0

C:\Hexaware\JavaProgramming>
```

The screenshot shows a Java IDE with a file named 'SimpleInterest.java'. The code defines a class 'SimpleInterest' with a 'main' method that initializes variables P=10000, T=3, and R=2, calculates the interest using the formula $Interest = P \times T \times R / 100$, and prints the result. A Command Prompt window is open, showing the execution of the program, which outputs 'Interest is 600.0'.

3. a. Flowchart to display Fibonacci Series



b. Algorithm to display Fibonacci Series

Step 1: Start

2: Read n

3: Initialise variables: a=0, b=1, i=0

4: while i<=n, Repeat the following steps

4.1: Display a

4.2: c=a+b

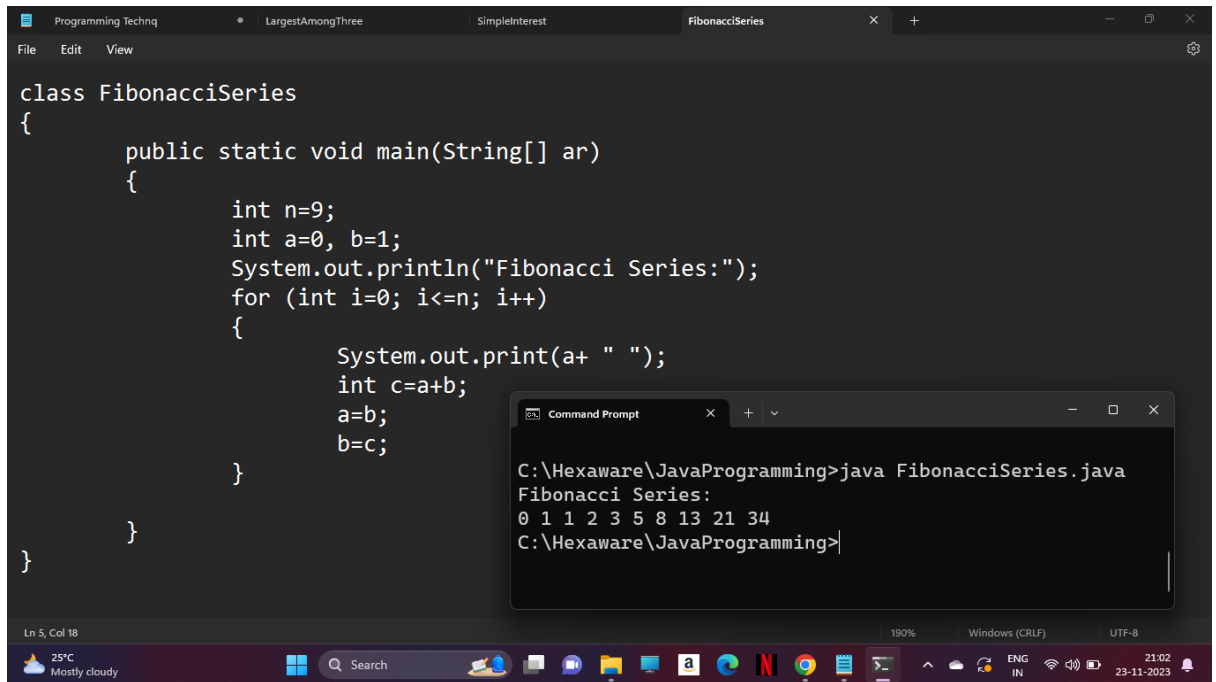
4.3: a=b

4.4: b=c

4.5: i=i+1

5. End

c. Java program to display Fibonacci Series

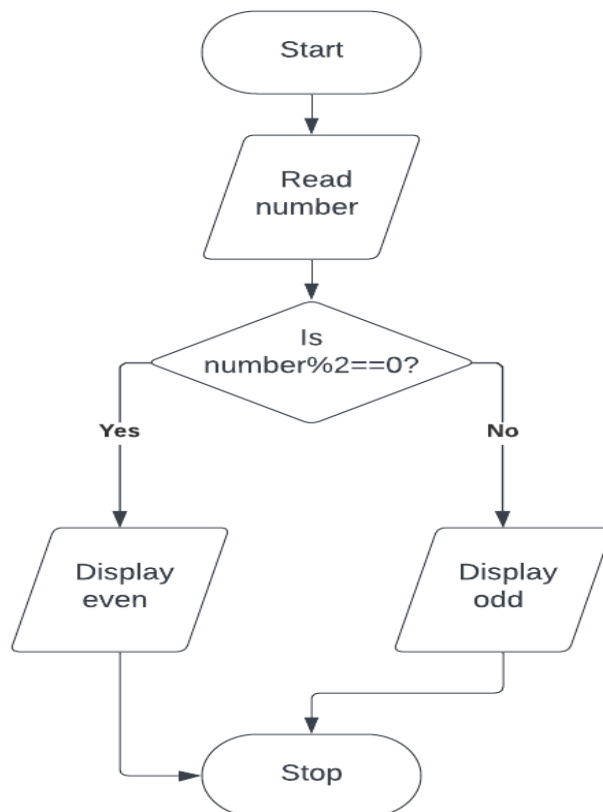


```
class FibonacciSeries
{
    public static void main(String[] ar)
    {
        int n=9;
        int a=0, b=1;
        System.out.println("Fibonacci Series:");
        for (int i=0; i<=n; i++)
        {
            System.out.print(a+ " ");
            int c=a+b;
            a=b;
            b=c;
        }
    }
}
```

Command Prompt

```
C:\Hexaware\JavaProgramming>java FibonacciSeries.java
Fibonacci Series:
0 1 1 2 3 5 8 13 21 34
C:\Hexaware\JavaProgramming>
```

4. a.Flowchart to find a number is even or odd



b. Algorithm to find a number is even or odd

Step 1: Begin

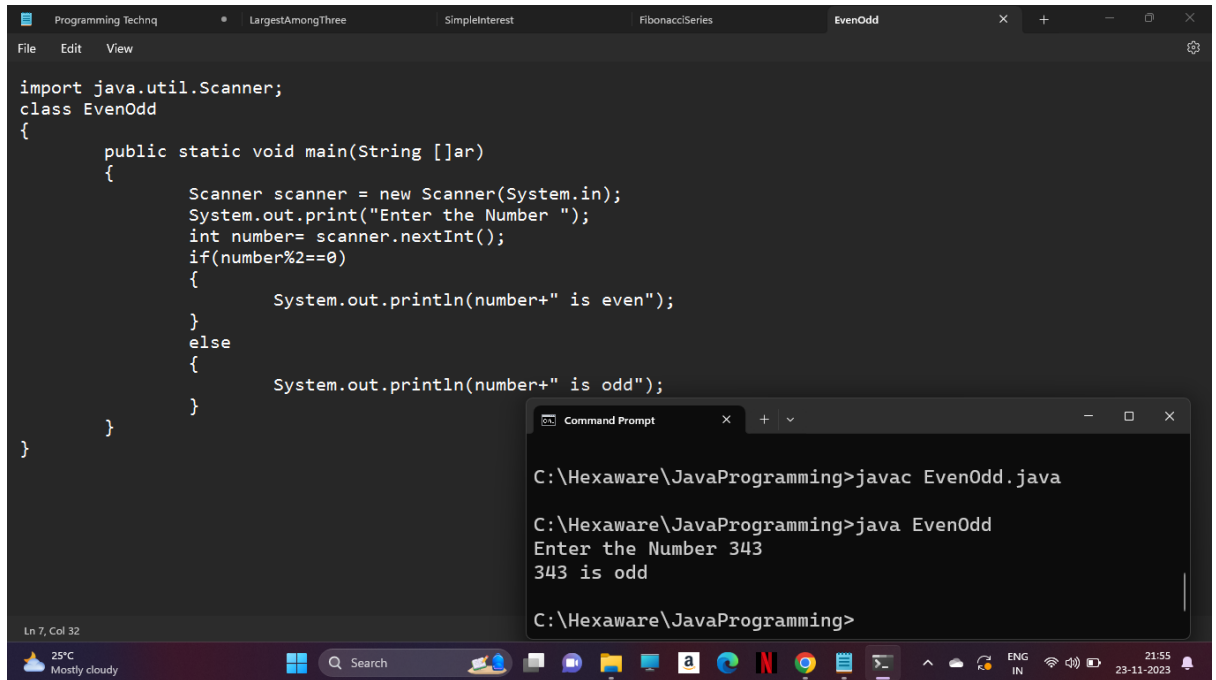
2: Read number

3: if $\text{number} \% 2 == 0$, display even

4: else Display odd

5: End.

c. Java program to find a number is even or odd



The screenshot shows a Java IDE with a file named 'EvenOdd.java' open. The code is as follows:

```
import java.util.Scanner;
class EvenOdd
{
    public static void main(String []ar)
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the Number ");
        int number= scanner.nextInt();
        if(number%2==0)
        {
            System.out.println(number+" is even");
        }
        else
        {
            System.out.println(number+" is odd");
        }
    }
}
```

Below the code editor, a Command Prompt window shows the execution of the program:

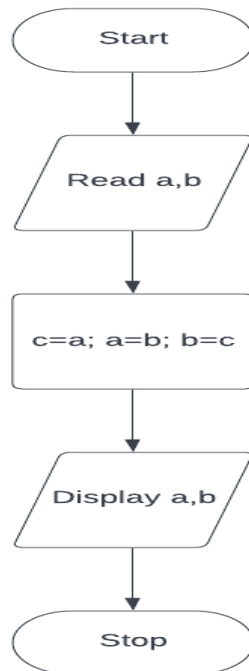
```
C:\Hexaware\JavaProgramming>javac EvenOdd.java

C:\Hexaware\JavaProgramming>java EvenOdd
Enter the Number 343
343 is odd

C:\Hexaware\JavaProgramming>
```

The IDE interface includes a menu bar (File, Edit, View) and a status bar at the bottom showing 'Ln 7, Col 32'. The Windows taskbar at the very bottom displays the date and time as 21:55 on 23-11-2023.

5. a. Flowchart to swap two numbers using temporary variable



b. Algorithm to swap two numbers using temporary variable

Step 1: Begin

2: Read a,b

3: c=a; a=b; b=c

4: Display a,b

5: End.

c. Java program to swap two numbers using temporary variable

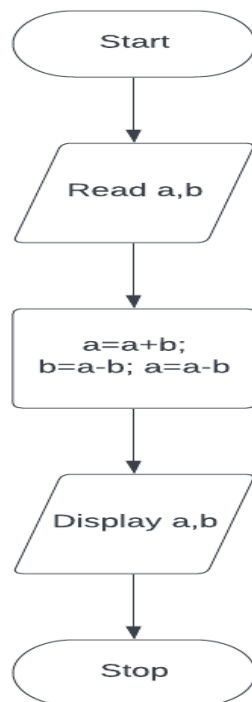
The screenshot shows a Java IDE with a file named 'SwapTemp.java' open. The code is as follows:

```
import java.util.Scanner;
class SwapTemp
{
    public static void main(String []ar)
    {
        Scanner scanner=new Scanner(System.in);
        System.out.print("Enter a: ");
        int a=scanner.nextInt();
        System.out.print("Enter b: ");
        int b=scanner.nextInt();
        System.out.println("Before Swap");
        System.out.println("a:"+a+" b:"+b);
        int c=a;
        a=b;
        b=c;
        System.out.println("After Swap");
        System.out.println("a:"+a+" b:"+b);
    }
}
```

Below the IDE, a Command Prompt window shows the execution of the program. The user enters '570' for 'a' and '343' for 'b'. The program outputs 'Before Swap' followed by 'a:570 b:343', and then 'After Swap' followed by 'a:343 b:570'.

```
C:\Hexaware\JavaProgramming>javac SwapTemp.java
C:\Hexaware\JavaProgramming>java SwapTemp
Enter a: 570
Enter b: 343
Before Swap
a:570 b:343
After Swap
a:343 b:570
```

6. a. Flowchart to swap two numbers without using temporary variable



b. Algorithm to swap two numbers without using temporary variable

Step 1: Begin

2: Read a,b

3: $a=a+b$; $b=a-b$; $a=a-b$

4: Display a,b

5: End.

c. Java program to swap two numbers without using temporary variable

The screenshot shows a Java IDE with a file named 'SwapNoTemp.java' open. The code in the IDE is as follows:

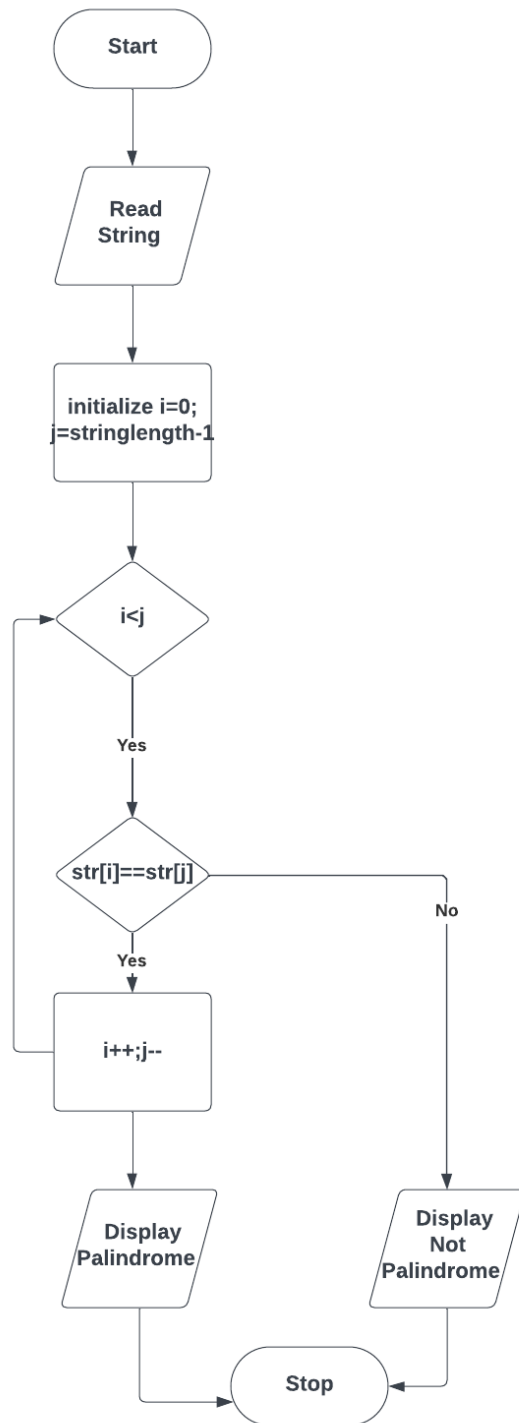
```
import java.util.Scanner;
class SwapNoTemp
{
    public static void main(String []ar)
    {
        Scanner scanner=new Scanner(System.in);
        System.out.print("Enter a: ");
        int a=scanner.nextInt();
        System.out.print("Enter b: ");
        int b=scanner.nextInt();
        System.out.println("Before Swap");
        System.out.println("a:"+a+" b:"+b);
        a=a+b;
        b=a-b;
        a=a-b;
        System.out.println("After Swap");
        System.out.println("a:"+a+" b:"+b);
    }
}
```

Below the IDE, a Command Prompt window shows the execution of the program. The commands and their outputs are:

```
C:\Hexaware\JavaProgramming>javac SwapNoTemp.java
C:\Hexaware\JavaProgramming>java SwapNoTemp
Enter a: 343
Enter b: 570
Before Swap
a:343 b:570
After Swap
a:570 b:343
```

The IDE's status bar at the bottom indicates 'Ln 15, Col 9'. The Windows taskbar at the very bottom shows the date as 23-11-2023 and the time as 22:23.

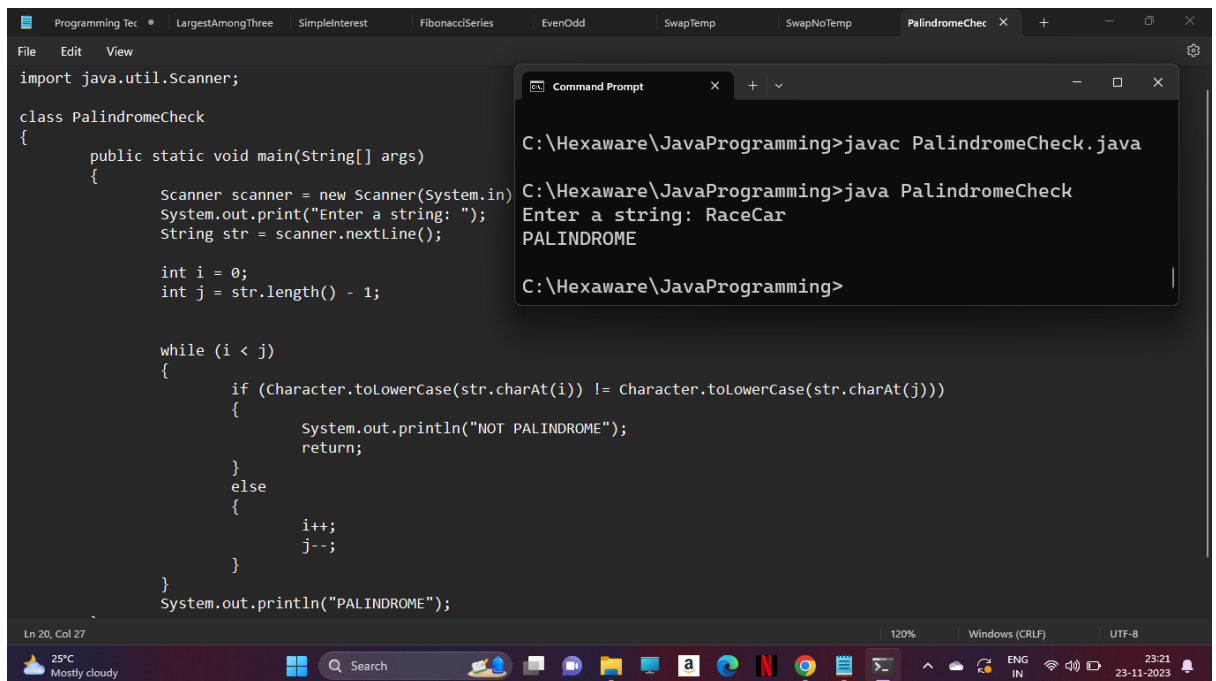
7. a. Flowchart to find a given string is palindrome or not



b. Algorithm to find a given string is palindrome or not

- Step
- 1: Start
 - 2: Read String
 - 3: Initialise $i=0$, $j=\text{string length}-1$
 - 4: while $i < j$ repeat
 - 4.1: if $\text{str}[i] \neq \text{str}[j]$
 - 4.1.a: Display NOT PALINDROME and goto step 6
 - 4.2: else
 - 4.2.a: $i++$; $j--$
 - 5: Display Palindrome
 - 6: Stop

c. Java program to swap two numbers without using temporary variable



The screenshot shows a Java IDE with a file named `PalindromeCheck.java` open. The code is as follows:

```
import java.util.Scanner;

class PalindromeCheck
{
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = scanner.nextLine();

        int i = 0;
        int j = str.length() - 1;

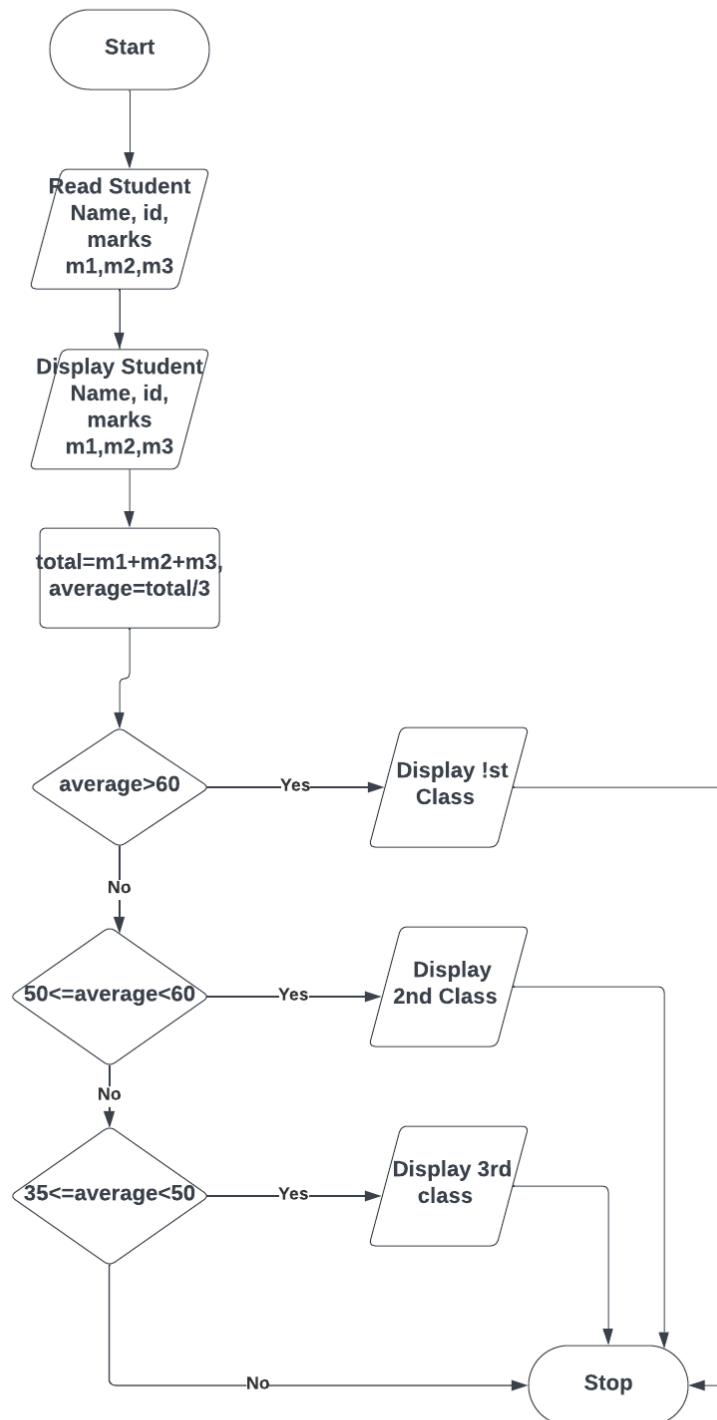
        while (i < j)
        {
            if (Character.toLowerCase(str.charAt(i)) != Character.toLowerCase(str.charAt(j)))
            {
                System.out.println("NOT PALINDROME");
                return;
            }
            else
            {
                i++;
                j--;
            }
        }
        System.out.println("PALINDROME");
    }
}
```

Overlaid on the IDE is a Windows Command Prompt window. It shows the following commands and output:

```
C:\Hexaware\JavaProgramming>javac PalindromeCheck.java
C:\Hexaware\JavaProgramming>java PalindromeCheck
Enter a string: RaceCar
PALINDROME
C:\Hexaware\JavaProgramming>
```

The IDE status bar at the bottom indicates the cursor is at line 20, column 27. The system tray shows a temperature of 25°C, mostly cloudy weather, and the date/time as 23:21 on 23-11-2023.

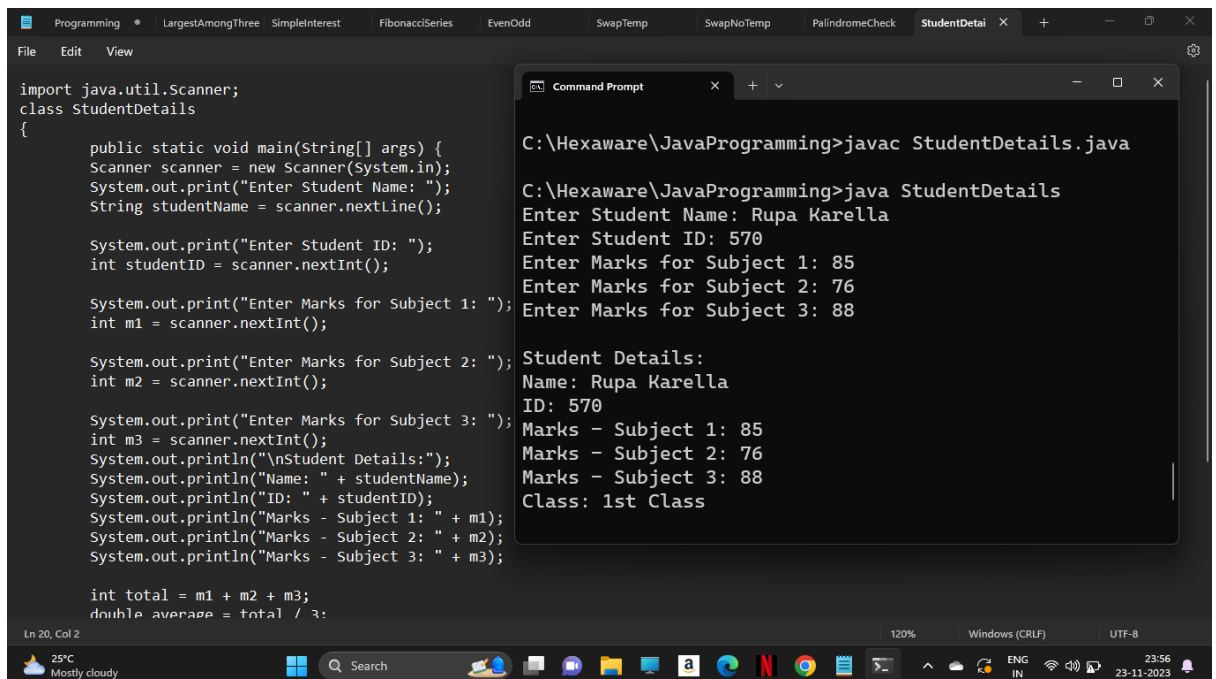
8. a. Flowchart to print student details



b. Algorithm to print student details

- Step
- 1: Start
 - 2: Read Student Name, id, marks m1, m2, m3
 - 3: Display Student Name, id, marks m1, m2, m3
 - 4: Calculate $\text{total} = m1 + m2 + m3$, $\text{average} = \text{total} / 3$
 - 5: if $\text{average} \geq 60$
 - 5.1: Display 1st Class and goto step 8
 - 6: else if $50 \leq \text{average} < 60$
 - 6.1: Display 2nd Class and goto step 8
 - 7: else if $35 \leq \text{average} < 50$
 - 7.1: Display 3rd Class and goto step 8
 - 8: Stop

c. Java Program to print student details



```
import java.util.Scanner;
class StudentDetails
{
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter Student Name: ");
        String studentName = scanner.nextLine();

        System.out.print("Enter Student ID: ");
        int studentID = scanner.nextInt();

        System.out.print("Enter Marks for Subject 1: ");
        int m1 = scanner.nextInt();

        System.out.print("Enter Marks for Subject 2: ");
        int m2 = scanner.nextInt();

        System.out.print("Enter Marks for Subject 3: ");
        int m3 = scanner.nextInt();
        System.out.println("\nStudent Details:");
        System.out.println("Name: " + studentName);
        System.out.println("ID: " + studentID);
        System.out.println("Marks - Subject 1: " + m1);
        System.out.println("Marks - Subject 2: " + m2);
        System.out.println("Marks - Subject 3: " + m3);

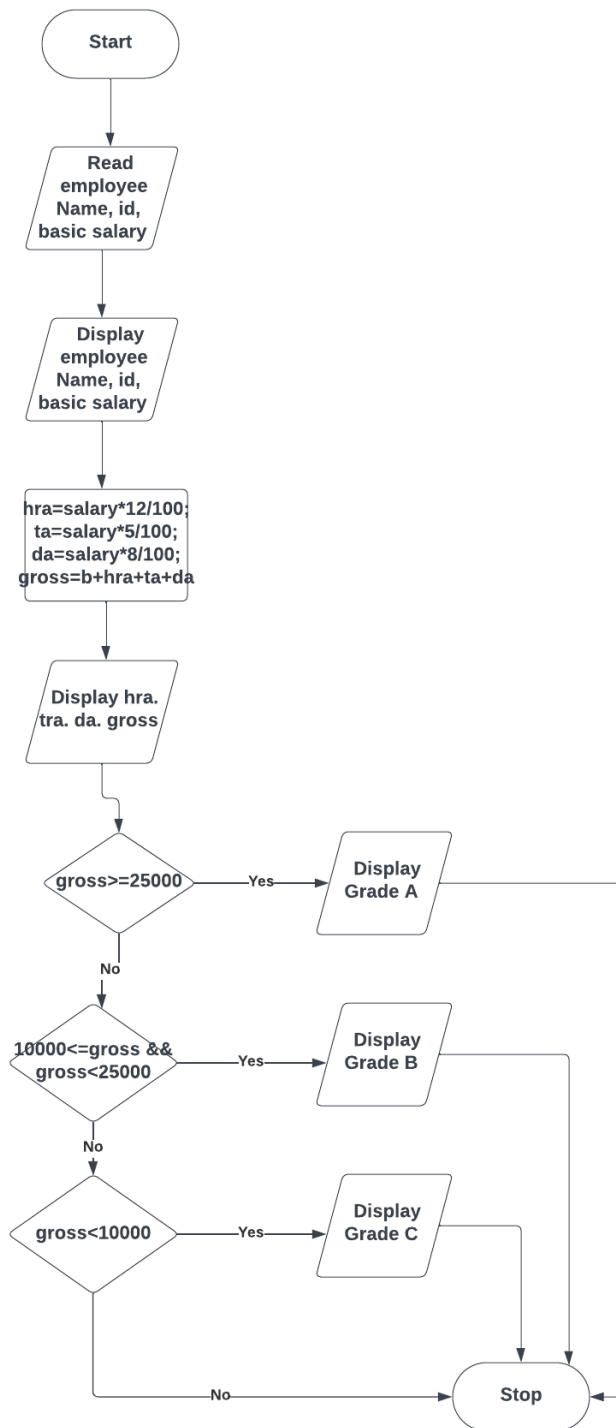
        int total = m1 + m2 + m3;
        double average = total / 3;
```

```
C:\Hexaware\JavaProgramming>javac StudentDetails.java

C:\Hexaware\JavaProgramming>java StudentDetails
Enter Student Name: Rupa Karella
Enter Student ID: 570
Enter Marks for Subject 1: 85
Enter Marks for Subject 2: 76
Enter Marks for Subject 3: 88

Student Details:
Name: Rupa Karella
ID: 570
Marks - Subject 1: 85
Marks - Subject 2: 76
Marks - Subject 3: 88
Class: 1st Class
```

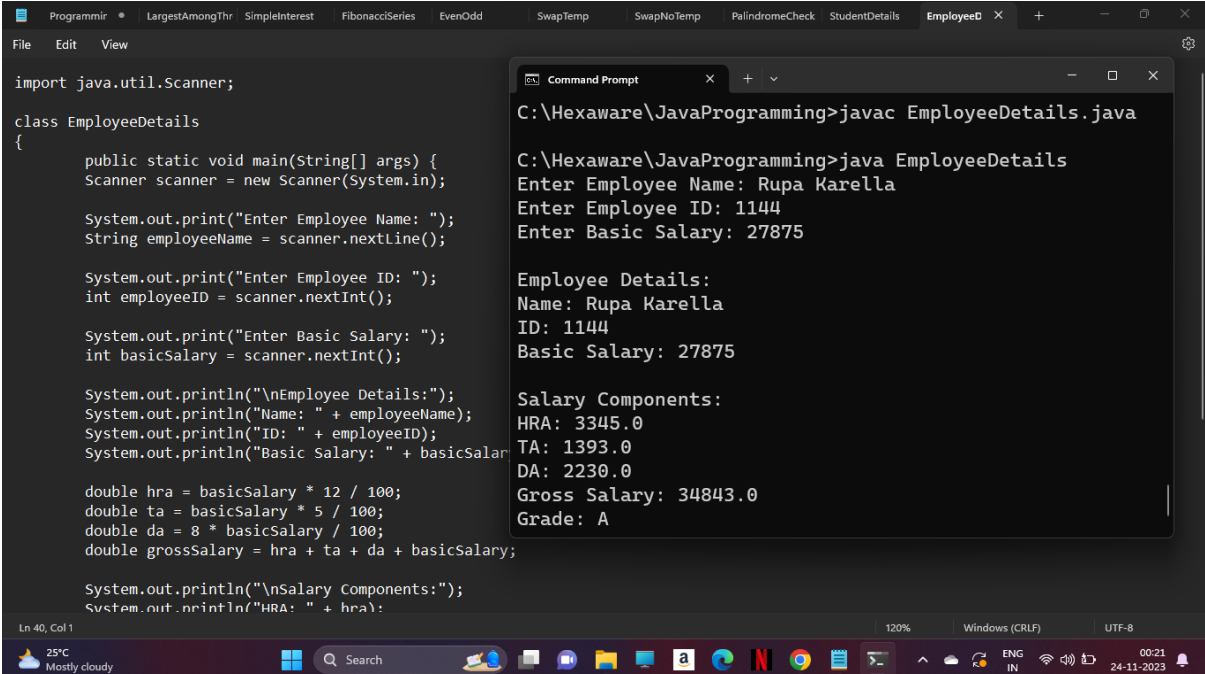
9. a. Flowchart to print employee details



b. Algorithm to print Employee details

- Step 1: Start
- 2: Read Employee Name, id, basic salary b
- 3: Display Student Name, id, basic salary b
- 4: Calculate $\text{hra} = b * 12 / 100$; $\text{ta} = b * 5 / 100$; $\text{da} = 8 * b / 100$; $\text{gross} = \text{hra} + \text{ta} + \text{da} + b$
- 5: Display hra, ta, da, gross
- 6: if $\text{gross} \geq 25000$
- 6.1: Display Grade A and goto step 9
- 7: else if $10000 \leq \text{gross} < 25000$
- 7.1: Display Grade B and goto step 9
- 8: else if $\text{gross} < 10000$
- 8.1: Display Grade C and goto step 9
- 9: Stop

c. Java Program to print Employee details



```
import java.util.Scanner;

class EmployeeDetails
{
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter Employee Name: ");
        String employeeName = scanner.nextLine();

        System.out.print("Enter Employee ID: ");
        int employeeID = scanner.nextInt();

        System.out.print("Enter Basic Salary: ");
        int basicSalary = scanner.nextInt();

        System.out.println("\nEmployee Details:");
        System.out.println("Name: " + employeeName);
        System.out.println("ID: " + employeeID);
        System.out.println("Basic Salary: " + basicSalary);

        double hra = basicSalary * 12 / 100;
        double ta = basicSalary * 5 / 100;
        double da = 8 * basicSalary / 100;
        double grossSalary = hra + ta + da + basicSalary;

        System.out.println("\nSalary Components:");
        System.out.println("HRA: " + hra);
    }
}
```

```
C:\Hexaware\JavaProgramming>javac EmployeeDetails.java

C:\Hexaware\JavaProgramming>java EmployeeDetails
Enter Employee Name: Rupa Karella
Enter Employee ID: 1144
Enter Basic Salary: 27875

Employee Details:
Name: Rupa Karella
ID: 1144
Basic Salary: 27875

Salary Components:
HRA: 3345.0
TA: 1393.0
DA: 2230.0
Gross Salary: 34843.0
Grade: A
```