

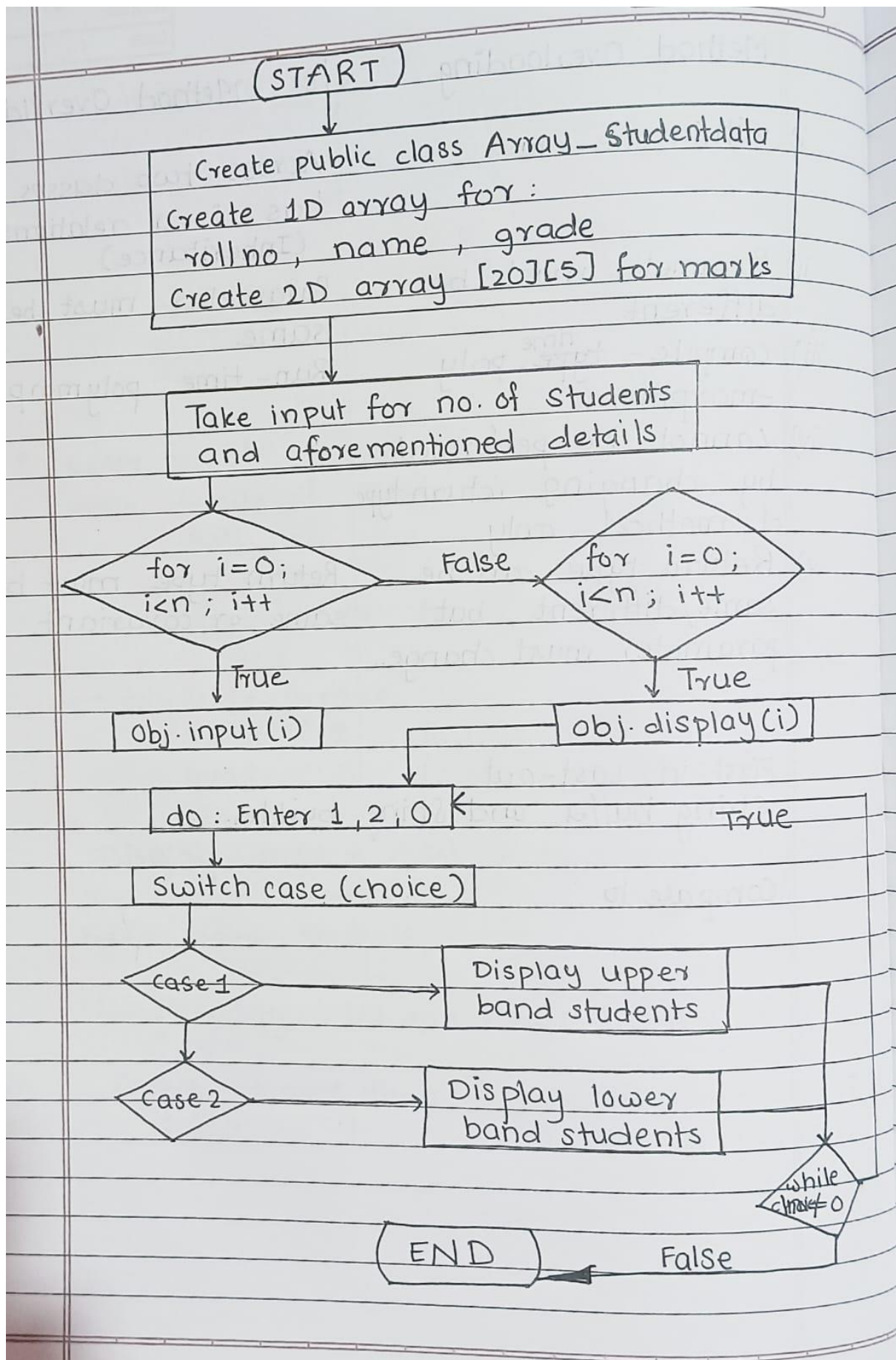
## **ASSIGNMENT 3**

**Java Program: (Array) Input student data (name, roll number, marks for 5 subjects) from User, calculate grade point and display upper & lower band students with it**

### **Algorithm:**

1. Declare a public class Array\_Studentdata.
2. Initialise 1D array for rollno, name and grade. Initialise 2D array for marks.
3. Create a method for input from the user.
4. Create another method to display input taken from the user.
5. In the main method, take input of number of students and create object of the class Array\_Studentdata.
6. Now call the methods input and display in separate 'for' loops.
7. Using switch case, display upper band and lower band students by taking choice 1 and 2 from the user respectively.
8. If 0 is entered, exit the program.

### **Flowchart:**



## Code:

```
package asgnmt_3;

import java.util.*;
import java.lang.*;
import java.util.Scanner;

public class Array_studentdata
{
    Scanner sc = new Scanner(System.in);

    static int rollno[] = new int[20];
    static int marks[][] = new int[20][5];
    static String name[] = new String[20];
    static float grade[] = new float[20];

    void input(int i)
    {
        System.out.print("\n\t Enter name of student : ");
        sc.nextLine();
        name[i] = sc.nextLine();
        System.out.print("\t Enter the roll no. of student : ");
        rollno[i] = sc.nextInt();
        System.out.print("\t Enter marks out of 100 in MVC : ");
        marks[i][0] = sc.nextInt();
        System.out.print("\t Enter marks out of 100 in FPL : ");
        marks[i][1] = sc.nextInt();
        System.out.print("\t Enter marks out of 100 in GI : ");
        marks[i][2] = sc.nextInt();
        System.out.print("\t Enter marks out of 100 in Phy : ");
        marks[i][3] = sc.nextInt();
        System.out.print("\t Enter marks out of 100 in EG : ");
        marks[i][4] = sc.nextInt();
        grade[i] =
            (marks[i][0] + marks[i][1] + marks[i][2] + marks[i][3] + marks[i][4]) / 50.0f;
    }

    void display(int i)
    {
        System.out.print("\n\n Name of the student : " + name[i]);
        System.out.print("\n Marks in MVC : " + marks[i][0]);
        System.out.print("\n Marks in FPL : " + marks[i][1]);
        System.out.print("\n Marks in GI : " + marks[i][2]);
        System.out.print("\n Marks in Phy : " + marks[i][3]);
        System.out.print("\n Marks in EG : " + marks[i][4]);
        System.out.print("\n Grade : " + grade[i]);
    }
}
```

```

public static void main(String[] args)
{
    Array_studentdata obj = new Array_studentdata();
    System.out.print("Enter number of students : ");
    int n = obj.sc.nextInt();

    for(int i=0; i<n; i++)
    {
        System.out.println("\nEnter the details of student "
+ (i+1));
        obj.input(i);
    }
    System.out.println("Details of students :");
    System.out.println();
    for(int i=0; i<n; i++)
    {
        obj.display(i);
    }

    do {
        System.out.println("\nEnter 1 to display upper band
students, 2 to display lower band students and 0 to exit.");

        int choice = obj.sc.nextInt();

        switch(choice)
        {
            case 1 :
                System.out.println("List of upper band students
:");
                for(int i=0; i<n; i++)
                {
                    if(grade[i]>8.00)
                        System.out.println(
rollno[i]+"\\t"+name[i]);
                }
                break;

            case 2 :
                System.out.println("List of lower band students
:");
                for(int i=0; i<n; i++)
                {
                    if(grade[i]<5.00)
                        System.out.println(
rollno[i]+"\\t"+name[i]);
                }
                break;

            case 0 :
                System.exit(0);
                break;

            default :
                System.out.println("Input appropriate choice.");
        }
    }
    while (true);
}
}

```

## **Output:**

Enter number of students : 7

Enter the details of student 1

Enter name of student : Chinmayee  
Enter the roll no. of student : 11  
Enter marks out of 100 in MVC : 80  
Enter marks out of 100 in FPL : 85  
Enter marks out of 100 in GI : 95  
Enter marks out of 100 in Phy : 85  
Enter marks out of 100 in EG : 90

Enter the details of student 2

Enter name of student : Richa  
Enter the roll no. of student : 22  
Enter marks out of 100 in MVC : 87  
Enter marks out of 100 in FPL : 85  
Enter marks out of 100 in GI : 87  
Enter marks out of 100 in Phy : 87  
Enter marks out of 100 in EG : 82

Enter the details of student 3

Enter name of student : Saeed  
Enter the roll no. of student : 33  
Enter marks out of 100 in MVC : 80  
Enter marks out of 100 in FPL : 80  
Enter marks out of 100 in GI : 90  
Enter marks out of 100 in Phy : 80  
Enter marks out of 100 in EG : 80

Enter the details of student 4

Enter name of student : Rutuja  
Enter the roll no. of student : 44  
Enter marks out of 100 in MVC : 85  
Enter marks out of 100 in FPL : 85  
Enter marks out of 100 in GI : 90  
Enter marks out of 100 in Phy : 90  
Enter marks out of 100 in EG : 85

Enter the details of student 5

Enter name of student : Nisha  
Enter the roll no. of student : 55  
Enter marks out of 100 in MVC : 75  
Enter marks out of 100 in FPL : 80  
Enter marks out of 100 in GI : 87  
Enter marks out of 100 in Phy : 78  
Enter marks out of 100 in EG : 90

Enter the details of student 6

Enter name of student : Swara  
Enter the roll no. of student : 66  
Enter marks out of 100 in MVC : 35  
Enter marks out of 100 in FPL : 50  
Enter marks out of 100 in GI : 60  
Enter marks out of 100 in Phy : 35  
Enter marks out of 100 in EG : 40

Enter the details of student 7

Enter name of student : Rushika  
Enter the roll no. of student : 77  
Enter marks out of 100 in MVC : 87  
Enter marks out of 100 in FPL : 75  
Enter marks out of 100 in GI : 88  
Enter marks out of 100 in Phy : 90  
Enter marks out of 100 in EG : 82

Details of students :

Name of the student : Chinmayee  
Marks in MVC : 80  
Marks in FPL : 85  
Marks in GI : 95  
Marks in Phy : 85  
Marks in EG : 90  
Grade : 8.7

Name of the student : Richa  
Marks in MVC : 87  
Marks in FPL : 85  
Marks in GI : 87  
Marks in Phy : 87  
Marks in EG : 82  
Grade : 8.56

Name of the student : Saee  
Marks in MVC : 80  
Marks in FPL : 80  
Marks in GI : 90  
Marks in Phy : 80  
Marks in EG : 80  
Grade : 8.2

Name of the student : Rutuja  
Marks in MVC : 85  
Marks in FPL : 85  
Marks in GI : 90  
Marks in Phy : 90  
Marks in EG : 85  
Grade : 8.7

Name of the student : Nisha  
Marks in MVC : 75  
Marks in FPL :80  
Marks in GI : 87  
Marks in Phy :78  
Marks in EG : 90  
Grade :8.2

Name of the student : Swara  
Marks in MVC : 35  
Marks in FPL :50  
Marks in GI : 60  
Marks in Phy :35  
Marks in EG : 40  
Grade :4.4

Name of the student : Rushika  
Marks in MVC : 87  
Marks in FPL :75  
Marks in GI : 88  
Marks in Phy :90  
Marks in EG : 82  
Grade :8.44

Enter 1 to display upper band students, 2 to display lower band students  
and 0 to exit.

1

List of upper band students :

11 Chinmayee  
22 Richa  
33 Sae  
44 Rutuja  
55 Nisha  
77 Rushika

Enter 1 to display upper band students, 2 to display lower band students  
and 0 to exit.

2

List of lower band students :

66 Swara

Enter 1 to display upper band students, 2 to display lower band students  
and 0 to exit.

0