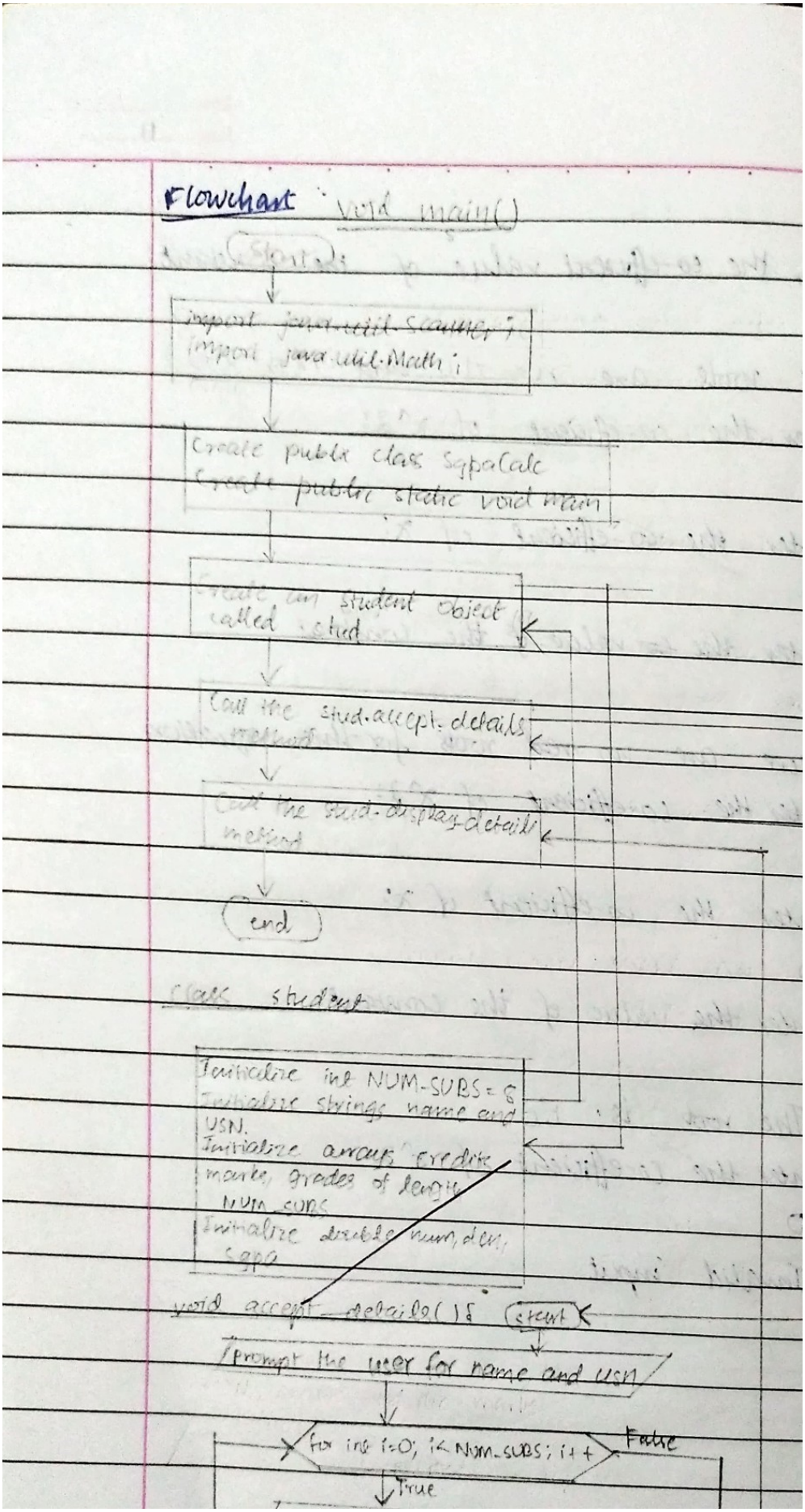
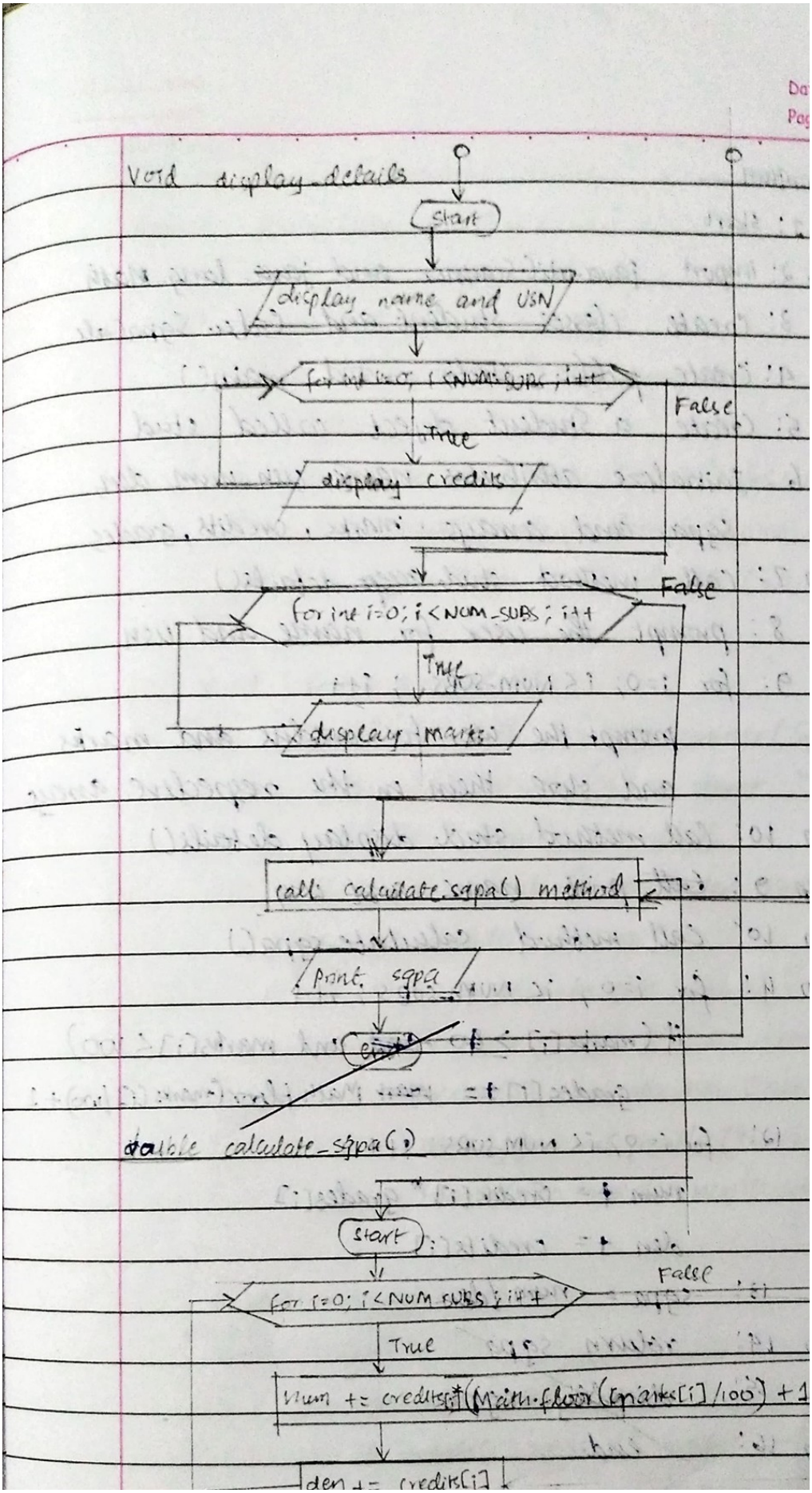
Flowchart void main()




void display_details
start
display name and USN
for int i=0; i<NUM_SUBS; i++
False
True
display credits
False
for int i=0; i<NUM_SUBS; i++
True
display marks
call calculate_sgpa() method
print sgpa
exit
double calculate_sgpa()
start
for i=0; i<NUM_SUBS; i++
False
True
num += credits[i]*(Math.floor(marks[i]/100) + 1
den += credits[i]

Algorithm:

step 1: start

step 2: import java.util.Scanner and java.

step 3: Create classes student and ~~Gete~~

step 4: Create public static void main

step 5: Create a Student object called

step 6: Initialize attributes name, usn, n
sgpa, and arrays marks, credi

step 7: Call method stud.accept_details()

step 8: prompt the user for name an

step 9: for i=0; i<NUM_SUBS ; i++
prompt the user for credits a
and store them in the resp

step 10: Call method stud.display deta

step 9: ~~Gett~~ print name and usn

step 10: Call method calculate_sgpa()

step 11: for i=0; i<NUM_SUBS; i++
if (marks[i] ≥ ~~50~~ and mark
grades[i] += ~~math~~ Math.floor(

step 12: for i=0; i<NUM_SUBS; i++;
num += credits[i] * grades[i]
den += credits[i]

step 13: sgpa = num/den

step 14: return sgpa

step 15: display sgpa

Program:

```
import java.util.Scanner;
import java.lang.Math;
class Student {
    int NUM_SUBS = 8; double sgpa, num, den;
    String name, usn;
    double credits[] = new double[NUM_SUB
    double marks[] = new double[NUM_S
    double grades[] = new double[NUM
    void accept_details(){
        Scanner reader = new Scanner(Sy
        System.out.println("Enter name: "
        name = reader.nextLine();
        System.out.println("Enter USN:
        usn = reader.nextLine();
        for(int i=0; i< NUM_SUBS; i++){
            System.out.println("Enter credi
            credits[i] = reader.nextDouble
            System.out.println("Enter
            marks[i] = reader.nextDoub
        }
    double calculate_sgpa(){
        for(int i=0; i<NUM_SUBS; i++){
            if(marks[i]>=40 && marks[i]<=
            grades[i] = Math.floor(mark
```

```
        num += grades[i] * credits[i];
        den += credits[i];
    }

    sgpa = num/den;
    return sgpa;

void display_details(){
    System.out.println("Name:" + nam
    System.out.println("USN:" + us
    System.out.print("Credits: ");
    for(i=0; i<NUM_SUBS; i++){
        System.out.print(credits[i] +"
    }
    System.out.println(" ");
    System.out.print("Marks: ");
    for(int i=0; i< NUM_SUBS; i++)
        System.out.print(marks[i] +
    }
    System.out.println(" ");
    System.out.println("SGPA: "
}

public class SgpaCalc {
    public static void main(String[]
        Student stud = new Student(
```

Output:

Enter name:

Agneya

Enter USN:

1BM22CS024

Enter credits:

4

Enter marks:

90

Enter credits:

4

Enter marks:

92

Enter credits:

3

Enter marks:

87

Enter credits:

3

Enter marks:

95

Enter credits:

3

Enter marks:

92

Enter credits:

```
C:\Users\bmsce\Desktop\1BM22CS024\lab 2>java SgpaCalc
Enter name:
Agneya
ENter USN:
1BM22CS024
Enter Credits:
4
Enter marks:
90
Enter Credits:
4
Enter marks:
92
Enter Credits:
3
Enter marks:
87
Enter Credits:
3
Enter marks:
95
Enter Credits:
3
Enter marks:
92
Enter Credits:
1
Enter marks:
97
```

```
Enter marks:
97
Enter Credits:
1
Enter marks:
96
Enter Credits:
1
Enter marks:
95
Name: Agneya
USN: 1BM22CS024
Credits: 4.0 4.0 3.0 3.0 3.0 1.0 1.0 1.0
Marks: 90.0 92.0 87.0 95.0 92.0 97.0 96.0 95.0
SGPA: 9.85
```