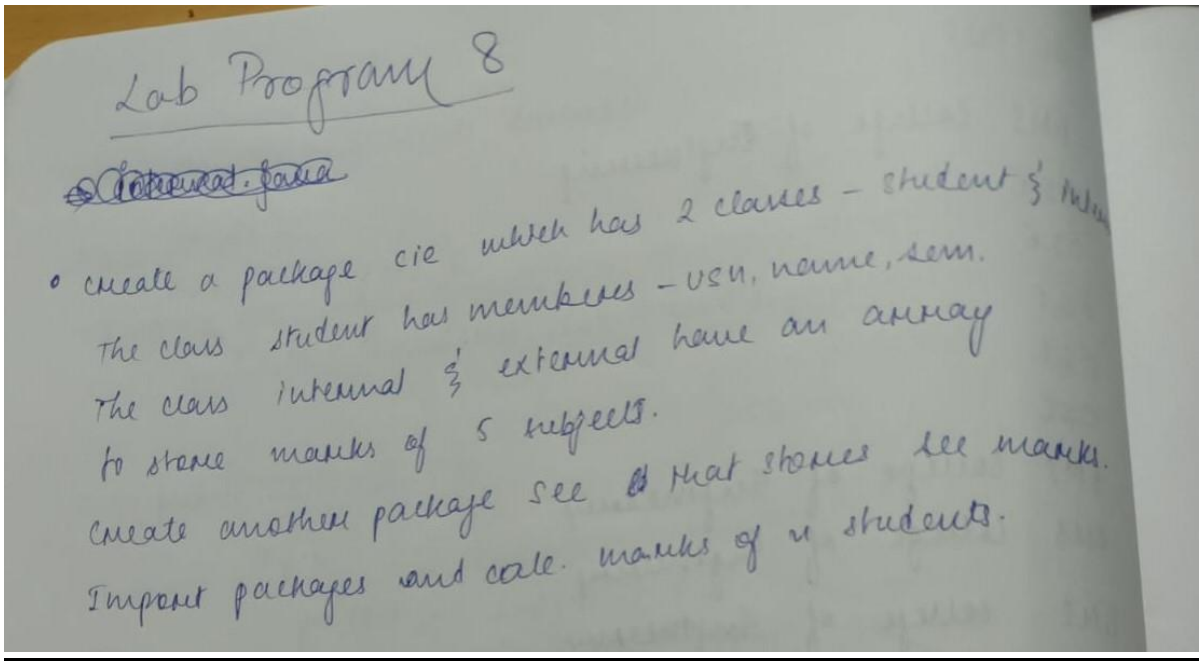
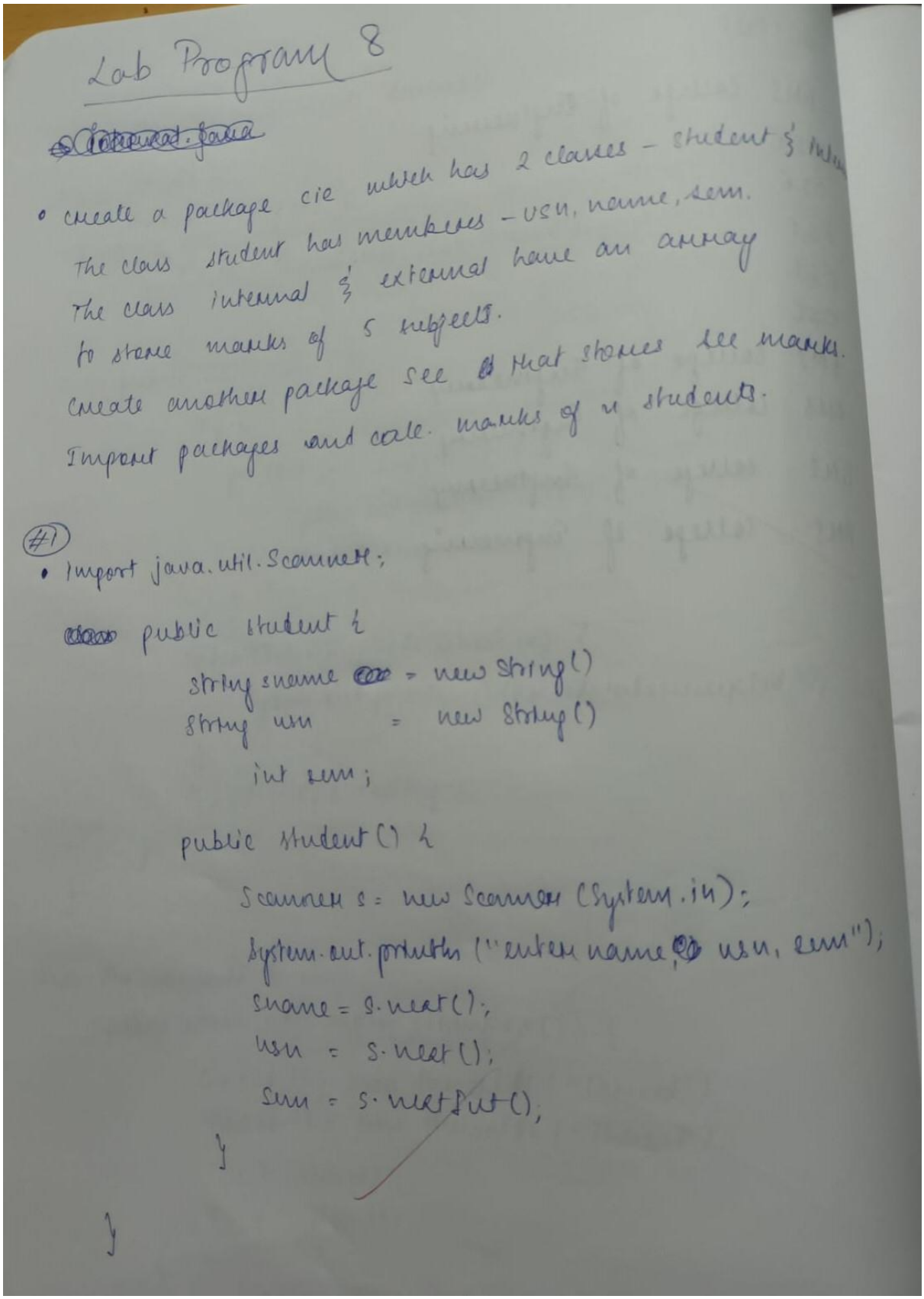
LAB PROGRAM 8

QUESTION 1:

Create a package CIE which has two classes- Student and Internals. The class Personal has members like usn, name, sem. The class internals has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of Student. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.



WRITTEN CODE



Lab Program 8

~~External.java~~

- create a package cie which has 2 classes - student & Internals
  The class student has members - usn, name, sem.
  The class internal & external have an array to store marks of 5 subjects.
  Create another package see & that stores see marks.
  Import packages and calc. marks of n students.

(#1)

- import java.util.Scanner;

```
public student {
    string sname = new String()
    String usn   = new String()
        int sem;
    public student() {
        Scanner s = new Scanner(System.in);
        System.out.println("enter name, usn, sem");
        sname = s.next();
        usn = s.next();
        sem = s.nextInt();
    }
}
```

```
public class internal extends student {

    protected float marks[] = new float[5];
    public internal() {
        Scanner ss = new Scanner(System.in);
        for(int i=0; i<5; i++)
            marks[i] = ss.nextFloat();
    }
}
```

(#2)

```
package see;
import java.util.Scanner;
import cie.internal;
public class external extends internal {
    float marks2[] = new float[5];
    public external() {
        Scanner ss = new Scanner(System.in);
        for(int i=0; i<5; i++)
            marks2[i] = ss.nextFloat();
    }
    public void calc() {
        for(int i=0; i<5; i++) {
            System.out.println(marks[i]+marks2[i]);
        }
    }
}
```

#3

```
import java.util.Scanner;
import cie.internal
import see.external

class pmain {
    public static void main (...) {
        Scanner s = new Scanner (System.in)
        external b1 = new external();
            b1.calc();
    }
}
```

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OUTPUT

```
C:\Users\anosh\OneDrive\Desktop\java practice\New folder>java pmain
Enter number of students:
1
Student 1 details
Enter your name:
Anoshor
Enter your usn:
1BM21CS024
Enter your sem:
3
Enter test marks for cie
Marks for sub1
34
Marks for sub2
43
Marks for sub3
45
Marks for sub4
50
Marks for sub5
40
Enter SEE marks
Enter marks for subject1
99
Enter marks for subject2
92
Enter marks for subject3
78
Enter marks for subject4
83
Enter marks for subject5
80
Student 1 Total Marks
Totat marks for Subject1 83.5
Totat marks for Subject2 89.0
Totat marks for Subject3 84.0
Totat marks for Subject4 91.5
Totat marks for Subject5 80.0
```

QUESTION 2:

Develop a Generic Class with Two Type Parameters.

CODE

```java
import java.util.Scanner;

class gen1<T1, T2> {
    int x;
    private T1 t1;
    private T2 t2;

    gen1(T1 t1,T2 t2) {
        this.t1=t1;
        this.t2=t2;
    }

    void getvaltype () {
        System.out.println("t1 is of type "+t1.getClass().getName()+" and has value "+t1);
        System.out.println("t2 is of type "+t2.getClass().getName()+" and has value "+t2);
    }
}

class gmain {
    public static void main(String sss[]) {
        gen1<Integer,String> g1=new gen1<Integer,String>(10,"Anoshor");
        g1.getvaltype();
    }
}
```

OUTPUT:

```
C:\Users\anosh\OneDrive\Desktop\java practice>javac gmain.java

C:\Users\anosh\OneDrive\Desktop\java practice>java gmain
t1 is of type java.lang.Integer and has value 10
t2 is of type java.lang.String and has value Anoshor
```