

Open Ended Question 2 Package Question:

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

SOURCE CODE:

File 1

```
package cie;
```

```
import java.util.Scanner;
```

```
public class student { //rename the file as student.java make it public and execute
```

```
    String sname=new String();
```

```
    String usn=new String();
```

```
    int sem;
```

```
    public student() {
```

```
        Scanner s=new Scanner(System.in);
```

```
        System.out.println("Enter your name: ");
```

```
        sname=s.next();
```

```
        System.out.println("Enter your usn: ");
```

```
        usn=s.next();
```

```
        System.out.println("Enter your sem: ");
```

```
        sem=s.nextInt();
```

```
    }
```

```
}
```

File 2

```
package cie;
import java.util.Scanner;
import cie.student;
public class internal extends student { //when this is public, save the file as
internal.java and save it
    protected float marks[]=new float[5];
    public internal() {
        Scanner ss=new Scanner(System.in);
        for(int i=0;i<5;i++) {
            System.out.println("Enter Subject " + (i+1) + " Internal
marks" );
            marks[i]=ss.nextInt();
        }
    }
}
```

File 3

```
package see;

import java.util.Scanner;
import cie.internal;
import cie.student;

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++) {
            System.out.println("Enter Subject " + (i+1) + " External
marks" );
            marks2[i]=ss.nextFloat();
        }
    }
}
```

```

        }
    }
    public void calc() {
        for(int i=0;i<5;i++) {
            System.out.println("Sum of Internal and External marks for
Subject " + i+ " is " + (marks[i]+marks2[i]));
        }
    }
}

```

File 4

```

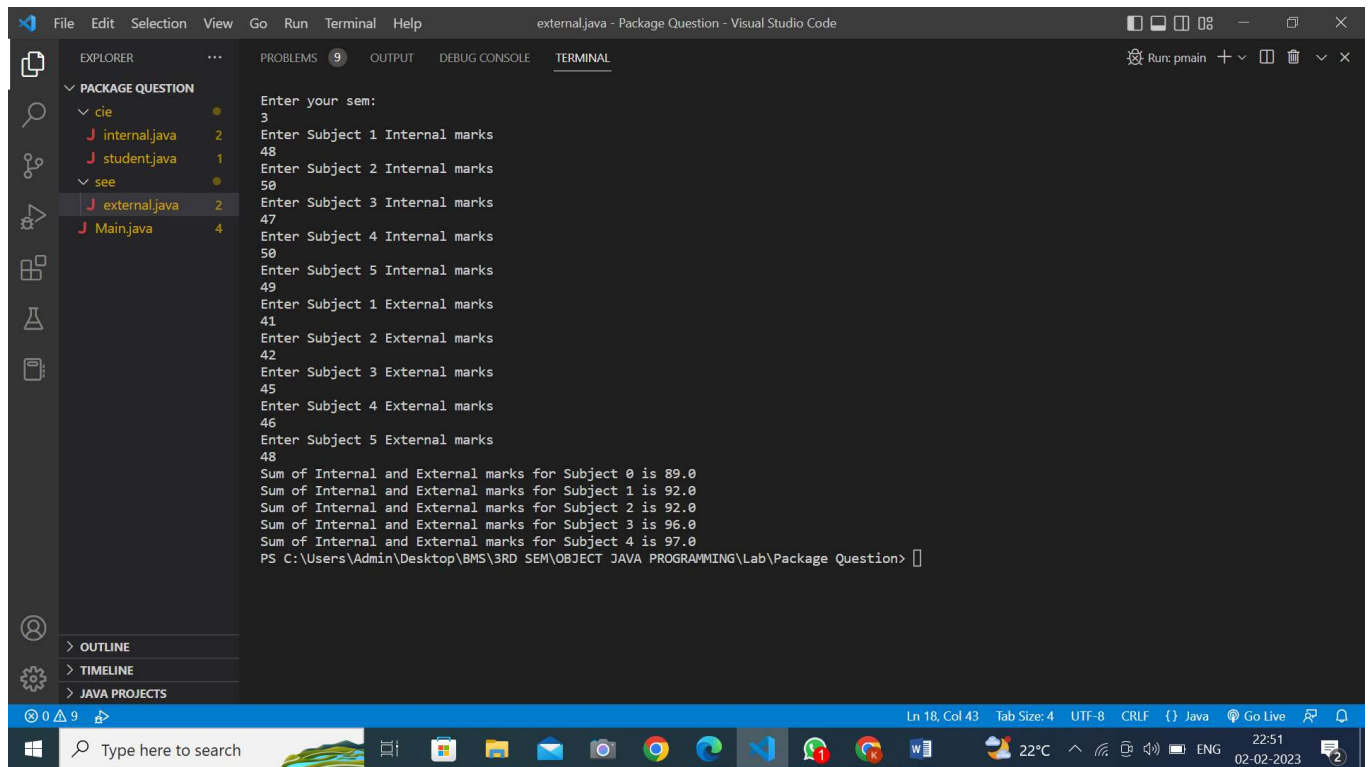
import java.util.Scanner;
import cie.internal;
import cie.student;
import see.external;

class pmain {
    public static void main(String xx[]) {
        Scanner s=new Scanner(System.in);

        external b1= new external();
        b1.calc();
    }
}

```

OUTPUT (including test cases):



```
external.java - Package Question - Visual Studio Code
Run: pmain

EXPLORER
PACKAGE QUESTION
  cie
  internal.java
  student.java
  see
  external.java
  Main.java

PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL

Enter your sem:
3
Enter Subject 1 Internal marks
48
Enter Subject 2 Internal marks
50
Enter Subject 3 Internal marks
47
Enter Subject 4 Internal marks
50
Enter Subject 5 Internal marks
49
Enter Subject 1 External marks
41
Enter Subject 2 External marks
42
Enter Subject 3 External marks
45
Enter Subject 4 External marks
46
Enter Subject 5 External marks
48
Sum of Internal and External marks for Subject 0 is 89.0
Sum of Internal and External marks for Subject 1 is 92.0
Sum of Internal and External marks for Subject 2 is 92.0
Sum of Internal and External marks for Subject 3 is 96.0
Sum of Internal and External marks for Subject 4 is 97.0
PS C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab\Package Question>
```