

## Session-5 Lab

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### ASSIGNMENT 10

```
package com.san.jay;

import java.util.Scanner;

public class SimpleInterest {

    public static void main(String[] args) {

        // Create Scanner object to take input from the console
        Scanner sc = new Scanner(System.in);

        // Taking user input for principal and time
        System.out.print("Enter the Principal amount: ");

        double principal = sc.nextDouble();

        System.out.print("Enter the Time (in years): ");

        double time = sc.nextDouble();

        double rate; // variable to store interest rate

        // Determine rate of interest based on principal amount
        if (principal > 10000) {
            rate = 10; // 10% interest
        } else if (principal >= 5000 && principal <= 10000) {
            rate = 8; // 8% interest
        } else {
            rate = 5; // 5% interest
        }

        // Calculate Simple Interest
        double interest = (principal * rate * time) / 100;

        // Display the result
        System.out.println("\n--- Simple Interest Calculation ---");
        System.out.println("Principal Amount: " + principal);
        System.out.println("Rate of Interest: " + rate + "%");
        System.out.println("Time (in years): " + time);
        System.out.println("Simple Interest: " + interest);
    }
}
```

```
// Close Scanner
sc.close();
}
}

import java.util.Scanner;

public class SimpleInterest1 {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        // Input values
        System.out.print("Enter the Principal amount: ");
        double principal = sc.nextDouble();

        System.out.print("Enter the Time (in years): ");
        double time = sc.nextDouble();

        double rate; // variable for rate of interest

        // if-else statement to decide the rate
        if (principal > 10000) {
            rate = 10; // 10% for amount > 10000
        } else if (principal >= 5000 && principal <= 10000) {
            rate = 8; // 8% for amount between 5000 and 10000
        } else {
            rate = 5; // 5% for amount below 5000
        }

        // Calculate Simple Interest
        double interest = (principal * rate * time) / 100;
```

```

// Display result

System.out.println("\n--- Simple Interest Details ---");

System.out.println("Principal Amount: " + principal);

System.out.println("Time (years): " + time);

System.out.println("Rate of Interest: " + rate + "%");

System.out.println("Simple Interest: " + interest);

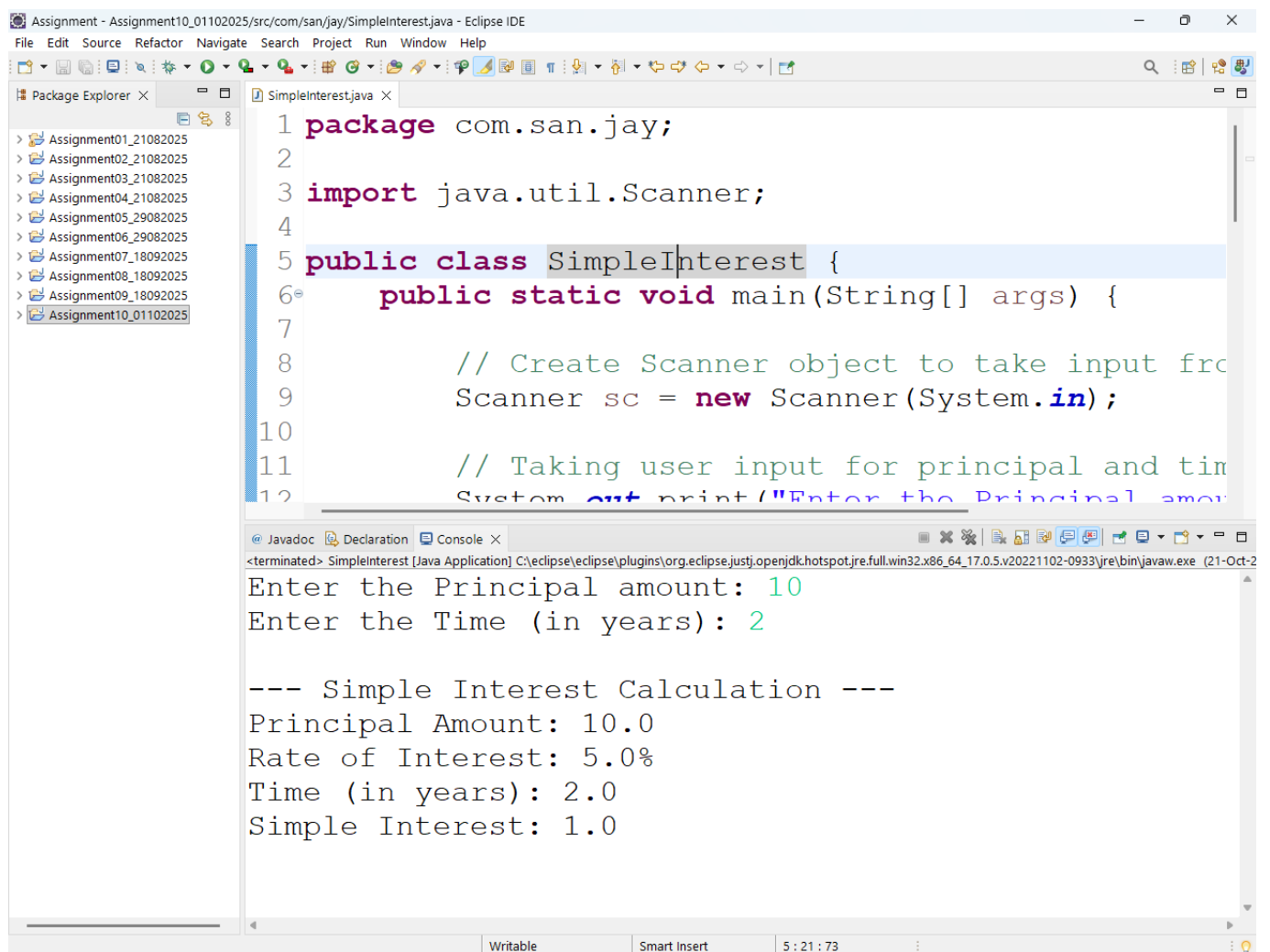

sc.close();

}

}

```

## ASSIGNMENT 10 – OUTPUT



The screenshot shows the Eclipse IDE with the file `SimpleInterest.java` open. The code in the editor is as follows:

```

1 package com.san.jay;
2
3 import java.util.Scanner;
4
5 public class SimpleInterest {
6     public static void main(String[] args) {
7
8         // Create Scanner object to take input from user
9         Scanner sc = new Scanner(System.in);
10
11         // Taking user input for principal and time
12         System.out.print("Enter the Principal amount: ");

```

The console output shows the execution of the program with the following input and output:

```

<terminated> SimpleInterest [Java Application] C:\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.5.v20221102-0933\jre\bin\javaw.exe (21-Oct-2
Enter the Principal amount: 10
Enter the Time (in years): 2

--- Simple Interest Calculation ---
Principal Amount: 10.0
Rate of Interest: 5.0%
Time (in years): 2.0
Simple Interest: 1.0

```

The screenshot shows the Eclipse IDE with a Java project named 'Assignment10\_01102025'. The package explorer on the left shows the project structure, including a 'src' folder with a package 'com.san.jayv' containing 'SimpleInterest1.java'. The main editor displays the code for 'SimpleInterest1.java'. The code defines a package, imports 'Scanner', and creates a 'SimpleInterest1' class with a 'main' method. The 'main' method uses a 'Scanner' to take input for the principal amount and time, then calculates and prints the simple interest details. The console window at the bottom shows the program's execution, with input values 250000 and 10, and the resulting output: 'Principal Amount: 250000.0', 'Time (years): 10.0', 'Rate of Interest: 10.0%', and 'Simple Interest: 250000.0'.

```
1 package com.san.jayv;
2
3 import java.util.Scanner;
4
5 public class SimpleInterest1 {
6     public static void main(String[] args) {
7
8         Scanner sc = new Scanner(System.in);
9
10        // Input values
11        System.out.print("Enter the Principal amount: ");
12        double principal = sc.nextDouble();
```

Enter the Principal amount: 250000  
Enter the Time (in years): 10  
--- Simple Interest Details ---  
Principal Amount: 250000.0  
Time (years): 10.0  
Rate of Interest: 10.0%  
Simple Interest: 250000.0

---

## ASSIGNMENT 11

```
package com.sanjay.vs;
```

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

```
public class StudentGrades {
```

```
    public static void main(String[] args) {
```

```
        // Create Scanner object to take input
```

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

```
        // Input marks for 5 subjects
```

```
        System.out.print("Enter marks for Subject 1: ");
```

```
        int sub1 = sc.nextInt();
```

```
System.out.print("Enter marks for Subject 2: ");

int sub2 = sc.nextInt();

System.out.print("Enter marks for Subject 3: ");

int sub3 = sc.nextInt();

System.out.print("Enter marks for Subject 4: ");

int sub4 = sc.nextInt();

System.out.print("Enter marks for Subject 5: ");

int sub5 = sc.nextInt();

// Calculate total marks

int total = sub1 + sub2 + sub3 + sub4 + sub5;

// Calculate average

double average = total / 5.0;

// Determine grade based on average

String grade;

if (average > 90) {

    grade = "Ex";

} else if (average > 80) {

    grade = "A";

} else if (average > 60) {

    grade = "B";

} else if (average >= 40) {

    grade = "C";

} else {

    grade = "F";

}

// Display the result

System.out.println("\n--- Student Result ---");

System.out.println("Total Marks: " + total + " / 500");

System.out.println("Average Marks: " + average + "%");

System.out.println("Grade: " + grade);

// Close the scanner
```

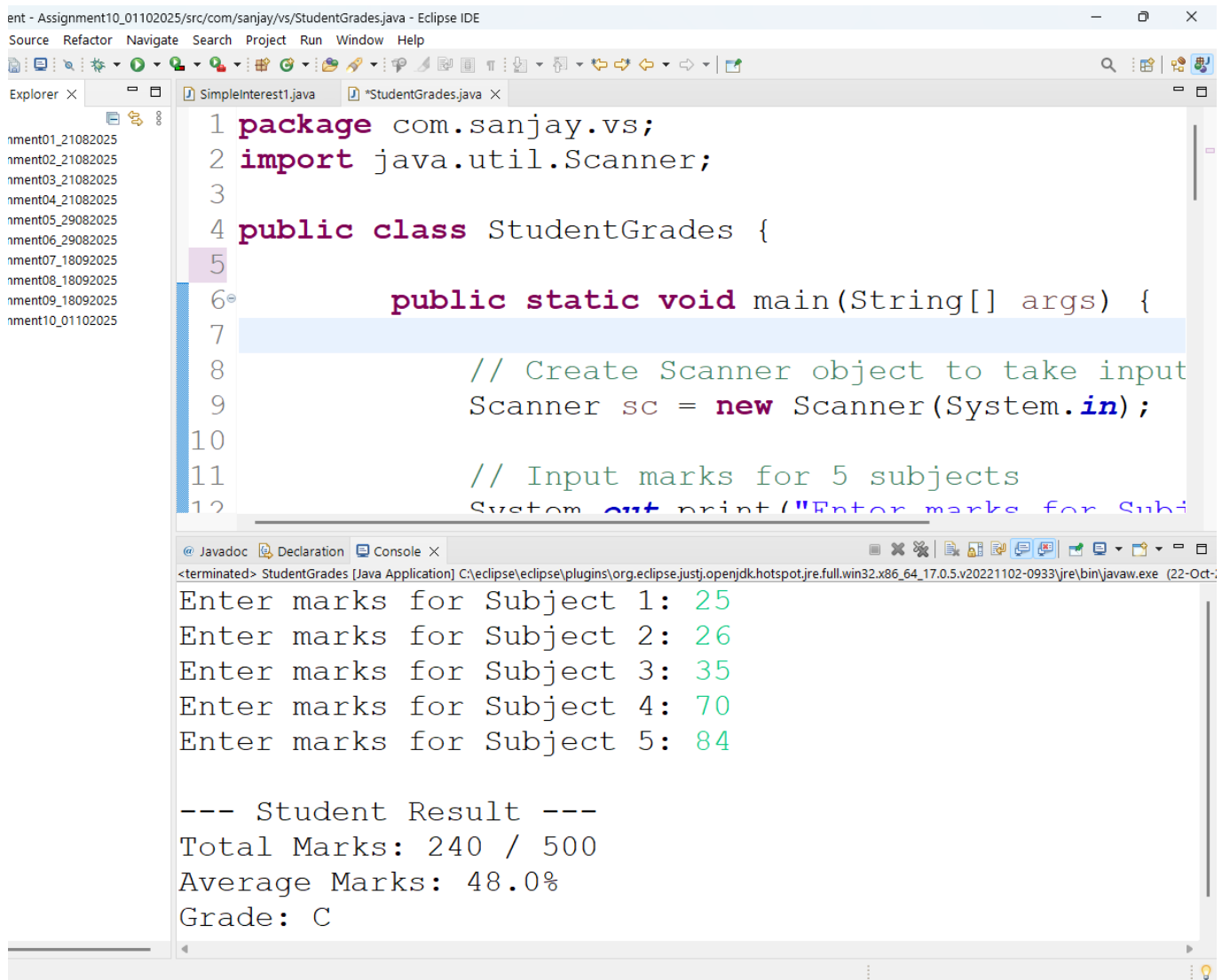
```
sc.close();
```

```
}
```

```
}
```

---

## ASSIGNMENT 11 – OUTPUT



The screenshot shows the Eclipse IDE interface. The main editor displays the `StudentGrades.java` file with the following code:

```
1 package com.sanjay.vs;
2 import java.util.Scanner;
3
4 public class StudentGrades {
5
6     public static void main(String[] args) {
7
8         // Create Scanner object to take input
9         Scanner sc = new Scanner(System.in);
10
11         // Input marks for 5 subjects
12         System.out.print("Enter marks for Subject 1: ");
13         int m1 = sc.nextInt();
14         System.out.print("Enter marks for Subject 2: ");
15         int m2 = sc.nextInt();
16         System.out.print("Enter marks for Subject 3: ");
17         int m3 = sc.nextInt();
18         System.out.print("Enter marks for Subject 4: ");
19         int m4 = sc.nextInt();
20         System.out.print("Enter marks for Subject 5: ");
21         int m5 = sc.nextInt();
22
23         // Calculate total marks
24         int total = m1 + m2 + m3 + m4 + m5;
25
26         // Calculate average marks
27         double average = total / 5.0;
28
29         // Determine grade
30         char grade;
31         if (average < 40) {
32             grade = 'F';
33         } else if (average < 50) {
34             grade = 'D';
35         } else if (average < 60) {
36             grade = 'C';
37         } else if (average < 70) {
38             grade = 'B';
39         } else {
40             grade = 'A';
41         }
42
43         // Display results
44         System.out.println("\n--- Student Result ---");
45         System.out.println("Total Marks: " + total + " / 500");
46         System.out.println("Average Marks: " + average + "%");
47         System.out.println("Grade: " + grade);
48     }
49 }
```

The console window shows the output of the program:

```
<terminated> StudentGrades [Java Application] C:\eclipse\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_17.0.5.v20221102-0933\jre\bin\javaw.exe (22-Oct-2022 10:10:10)
Enter marks for Subject 1: 25
Enter marks for Subject 2: 26
Enter marks for Subject 3: 35
Enter marks for Subject 4: 70
Enter marks for Subject 5: 84

--- Student Result ---
Total Marks: 240 / 500
Average Marks: 48.0%
Grade: C
```

---

## ASSIGNMENT 12

```
package com.san.jayvsa;
```

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

```
public class InternetBill {
```

```
    public static void main(String[] args) {
```

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

```
        // Input total data consumed (in GB)
```

```
System.out.print("Enter total data consumed (in GB): ");

double data = sc.nextDouble();

double billAmount;

// Using if-else logic to calculate the bill

if (data < 10) {

    billAmount = 300; // Basic charge

} else if (data <= 30) {

    billAmount = 300 + 5 * (data - 10); // Rs. 5 per GB above 10GB

} else {

    billAmount = 400 + 3 * (data - 30); // Rs. 3 per GB above 30GB

}

// Display the final bill amount

System.out.println("\n--- Internet Bill Details ---");

System.out.println("Total Data Consumed: " + data + " GB");

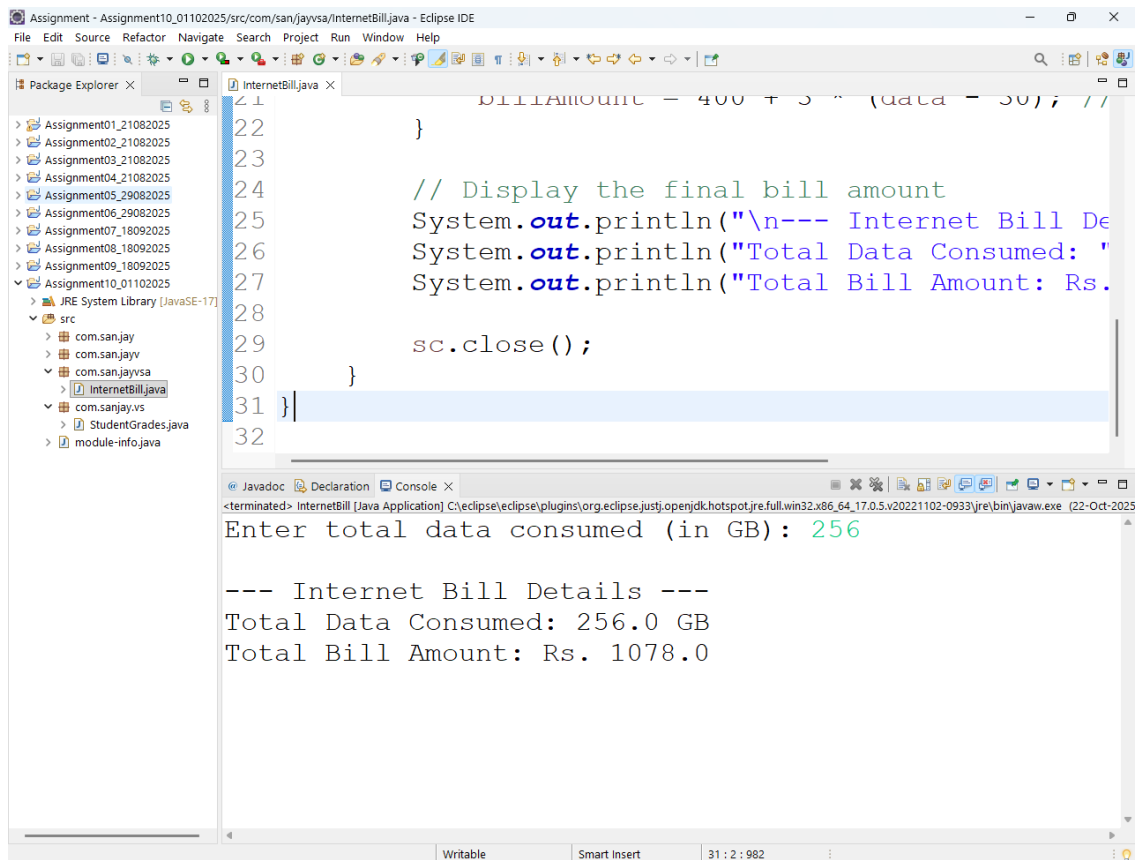
System.out.println("Total Bill Amount: Rs. " + billAmount);

sc.close();
```

```
}
```

```
}
```

## ASSIGNMENT 12 – OUTPUT



The screenshot displays the Eclipse IDE interface. The Package Explorer on the left shows a project structure with several assignment folders and a package named `com.sanjay` containing `InternetBill.java`. The main editor window shows the source code of `InternetBill.java`, which includes a calculation for the total bill amount and a call to `System.out.println` to display the results. The console window at the bottom shows the execution output, including the prompt for total data consumed and the final bill details.

```
21      BILLAMOUNT = 400 + 5 * (data - 30); //
22      }
23
24      // Display the final bill amount
25      System.out.println("\n--- Internet Bill De
26      System.out.println("Total Data Consumed: "
27      System.out.println("Total Bill Amount: Rs.
28
29      sc.close();
30  }
31 }
32
```

Console Output:

```
<terminated> InternetBill [Java Application] C:\eclipse\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_17.0.5.v20221102-0933\jre\bin\javaw.exe (22-Oct-2025)
Enter total data consumed (in GB): 256

--- Internet Bill Details ---
Total Data Consumed: 256.0 GB
Total Bill Amount: Rs. 1078.0
```