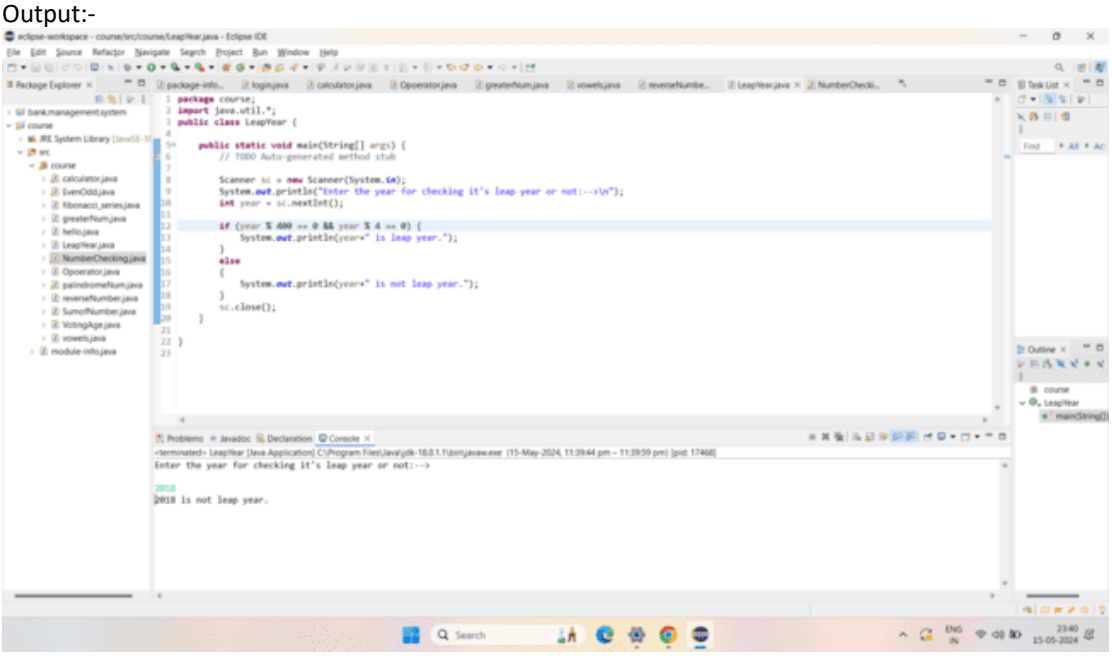
1. Write a program to check if a given year is a leap year.(A year is a leap year if it divisible by 4 but not by 100,or it is divisible by 400.

Code:-

```
package course;
import java.util.*;
public class LeapYear {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
System.out.println("Enter the year for checking it's leap year or not:--
>\n");
int year = sc.nextInt();
if (year % 400 == 0 && year % 4 == 0) {
System.out.println(year+" is leap year.");
}
else
{
System.out.println(year+" is not leap year.");
}
sc.close();
}

}
```

Output:-

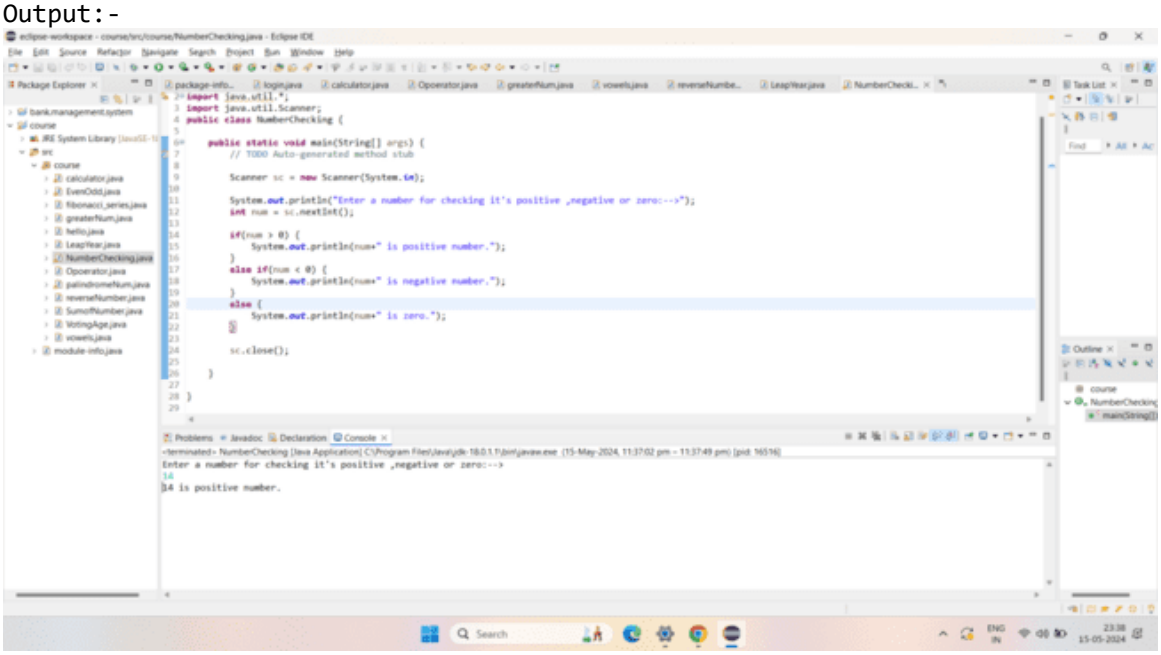


2. Write a program that takes an integer as input and checks if it is positive,negative, or zero.

Code:-

```
package course;
import java.util.*;
import java.util.Scanner;
public class NumberChecking {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

		Scanner sc = new Scanner(System.in);

		System.out.println("Enter a number:-->");
		int num = sc.nextInt();

		if(num > 0) {
			System.out.println(num+" is positive number.");
		}
		else if(num < 0) {
			System.out.println(num+" is negative number.");
		}
		else {
			System.out.println(num+" is zero.");
		}

		sc.close();

	}

}
```

Output:-

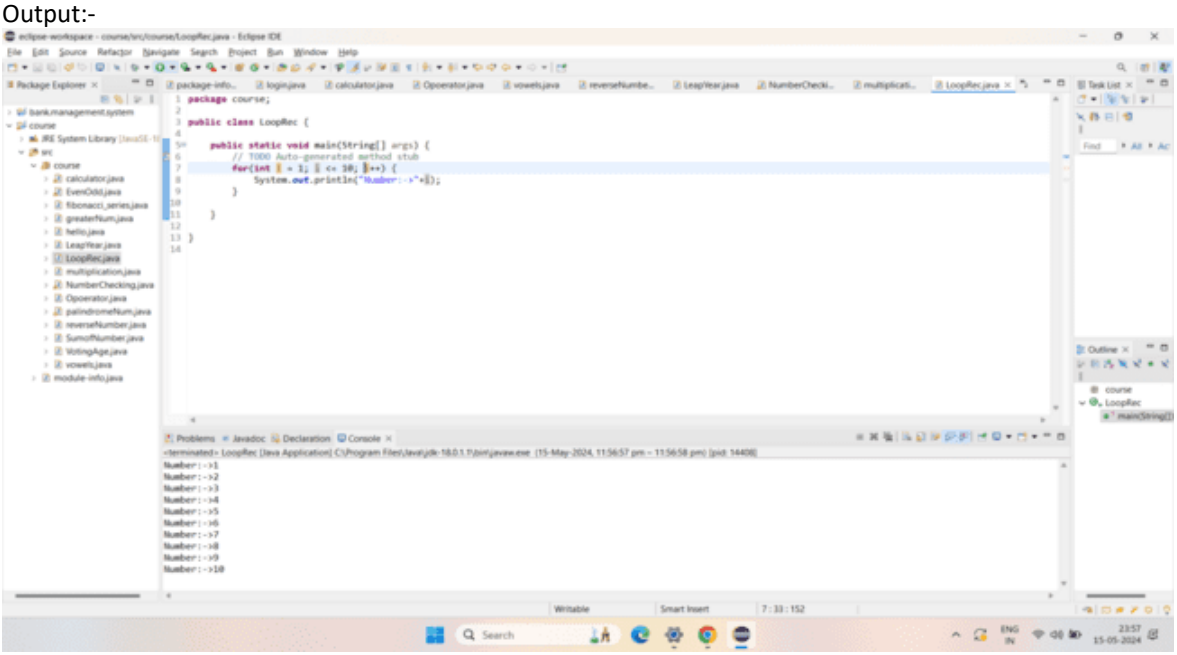


3. Write a program that print numbers from 1 to 10 using a loop.

Code:-

```
package course;

public class LoopRec {

public static void main(String[] args) {
// TODO Auto-generated method stub
for(int i = 1; i <= 10; i++) {
System.out.println("Number:->"+i);
}

}

}
```

Output:-

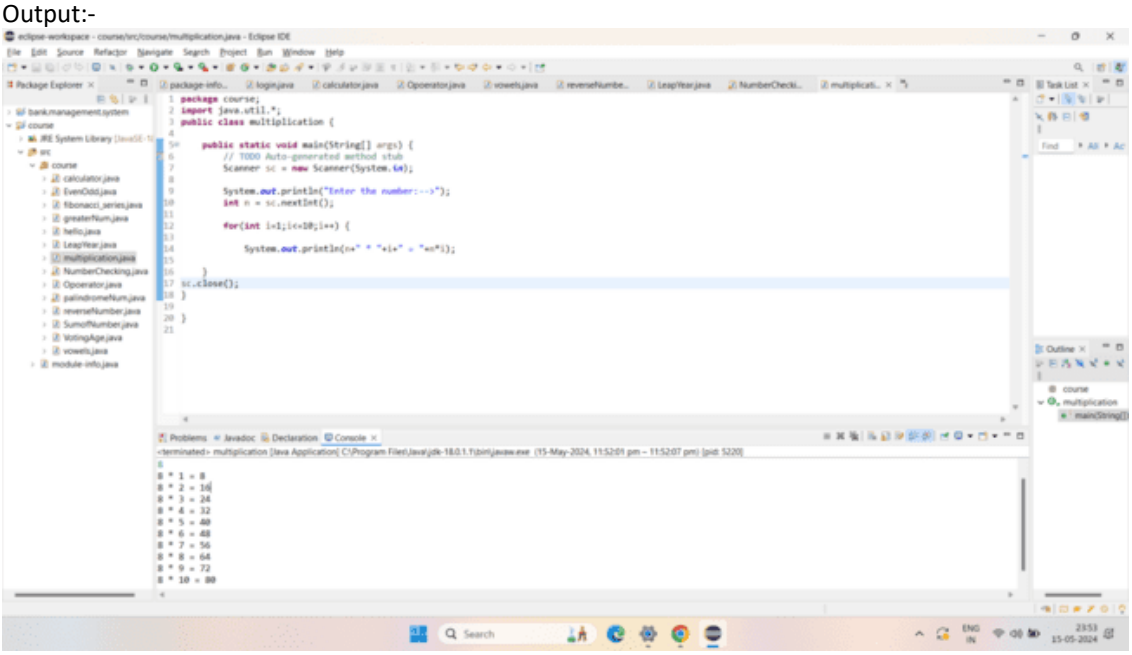


4. Write a program that takes an integers as input and print its multiplication table up to 10.

Code:-

```
package course;
import java.util.*;
public class multiplication {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number:-->");
int n = sc.nextInt();
for(int i=1;i<=10;i++) {
System.out.println(n+" * "+i+" = "+n*i);

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

Output:-

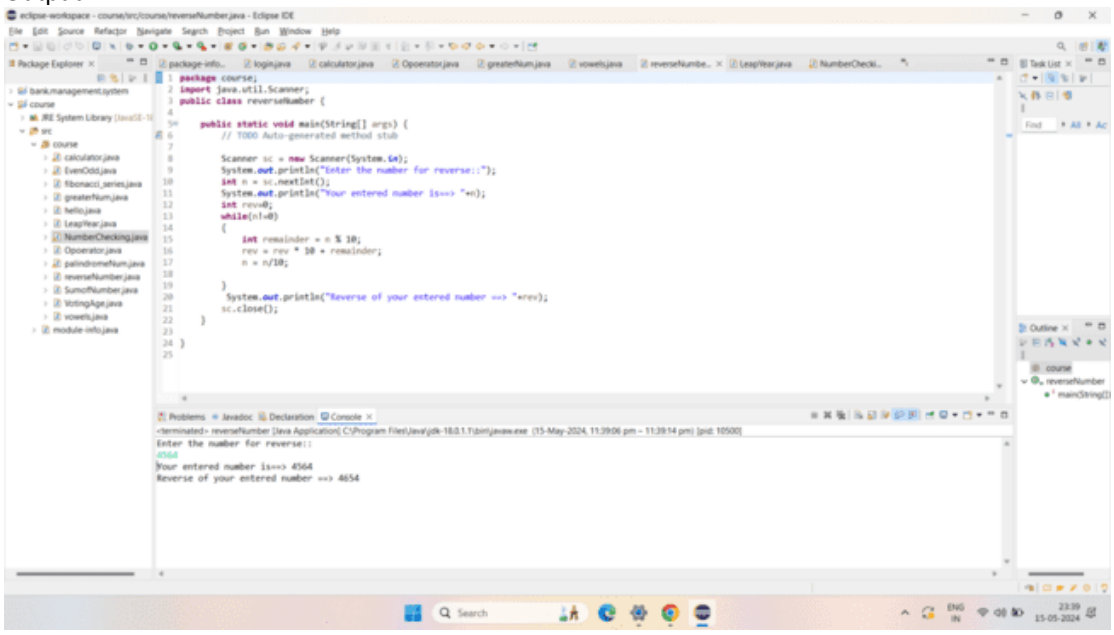


5. Write a program that takes a positive integers as input and print its digits in reverse order.

Code:-

```
package course;
import java.util.Scanner;
public class reverseNumber {

public static void main(String[] args) {
// TODO Auto-generated method stub

Scanner sc = new Scanner(System.in);
System.out.println("Enter the number for reverse::");
int n = sc.nextInt();
System.out.println("Your entered number is==> "+n);
int rev=0;
while(n!=0)
{
int remainder = n % 10;
rev = rev * 10 + remainder;
n = n/10;
}
System.out.println("Reverse of your entered number ==> "+rev);
sc.close();
}

}
```

Output:-



6.Write a program that takes a student's score as input and outputs the corresponding grade based on the following scale:

A: 90-100

B: 80-89

C: 70-79

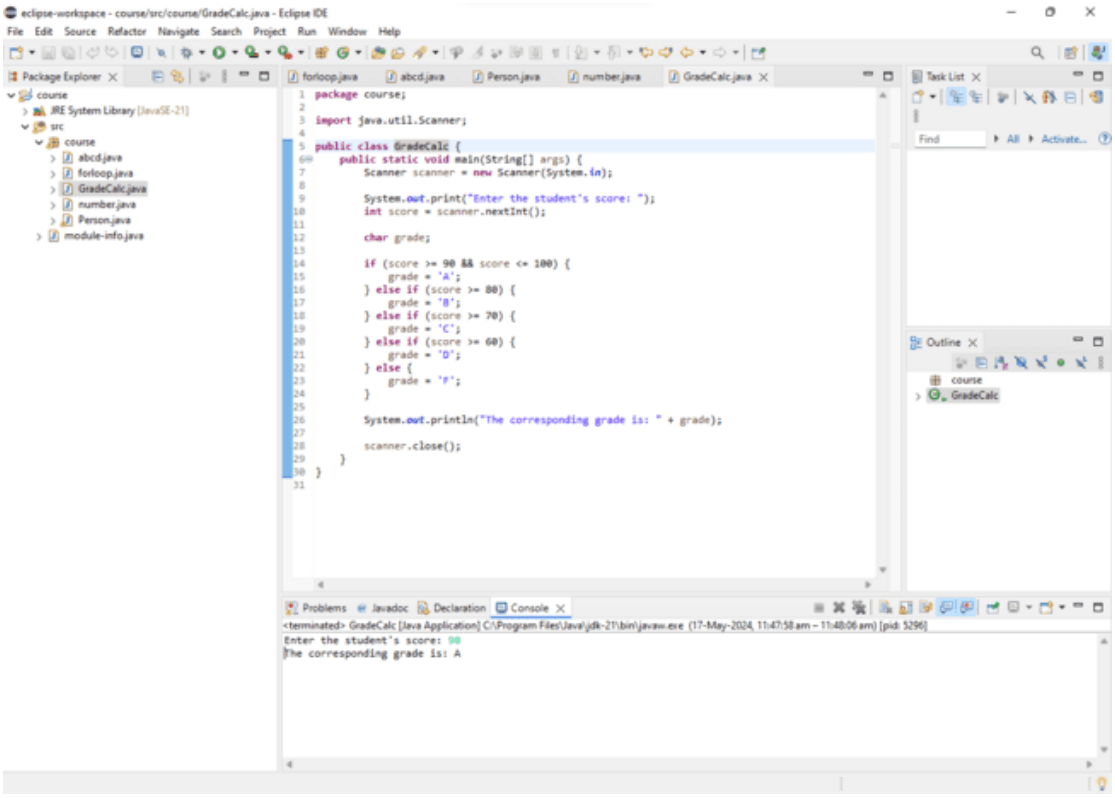
D: 60-69

F: 0-59

Code:-

```
package course;

import java.util.Scanner;

public class GradeCalc {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the student's score: ");
        int score = scanner.nextInt();

        char grade;

        if (score >= 90 && score <= 100) {
            grade = 'A';
        } else if (score >= 80) {
            grade = 'B';
        } else if (score >= 70) {
            grade = 'C';
        } else if (score >= 60) {
            grade = 'D';
        } else {
            grade = 'F';
        }

        System.out.println("The corresponding grade is: " + grade);

        scanner.close();
    }
}
```

Output:-

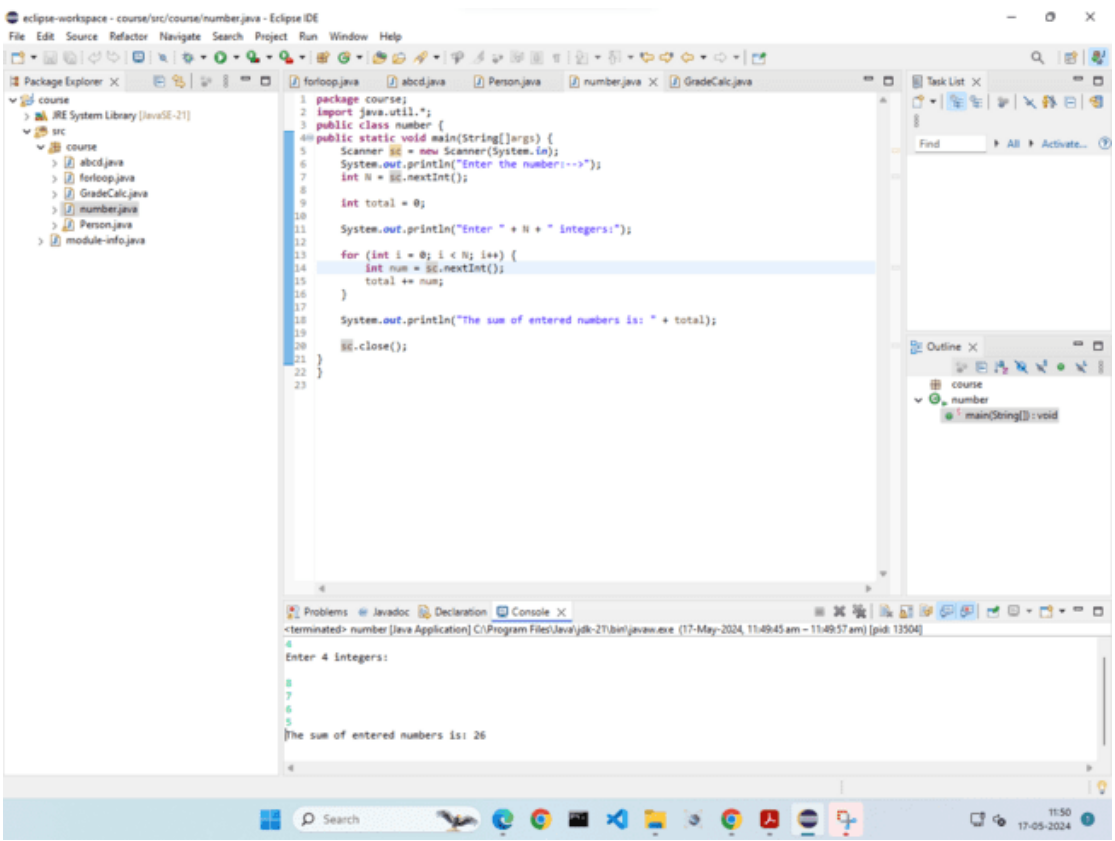

eclipse-workspace - course/src/course/GradeCalc.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
course
JRE System Library [JavaSE-21]
src
course
abcd.java
forloop.java
GradeCalc.java
number.java
Person.java
module-info.java
forloop.java
abcd.java
Person.java
number.java
GradeCalc.java
package course;
import java.util.Scanner;
public class GradeCalc {
public static void main(String[] args) {
Scanner scanner = new Scanner(System.in);
System.out.print("Enter the student's score: ");
int score = scanner.nextInt();
char grade;
if (score >= 90 && score <= 100) {
grade = 'A';
} else if (score >= 80) {
grade = 'B';
} else if (score >= 70) {
grade = 'C';
} else if (score >= 60) {
grade = 'D';
} else {
grade = 'F';
}
System.out.println("The corresponding grade is: " + grade);
scanner.close();
}
}
Task List
Outline
course
GradeCalc
Problems Javadoc Declaration Console
<terminated> GradeCalc [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (17-May-2024, 11:47:58 am – 11:48:06 am) [pid: 5296]
Enter the student's score: 90
The corresponding grade is: A

7.Write a program that takes an integer N as input and calculates the sum of entered numbers.

Code:-

```
package course;
import java.util.*;
public class number {
public static void main(String[]args) {
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number:-->");
int N = sc.nextInt();
int total = 0;
System.out.println("Enter " + N + " integers:");
for (int i = 0; i < N; i++) {
int num = sc.nextInt();
total += num;
}
System.out.println("The sum of entered numbers is: " +       total);
sc.close();
}
}
```

Output:-



8.Create a class Animal with a method makeSound() that prints "Some generic animal sound". Create another class Dog that extends Animal and overrides the makeSound() method to print "Bark". Write a main method to demonstrate calling the makeSound() method on an Animal reference holding a Dog object.

Code:-

```
package course;
class Animal {
    public void makeSound() {
        System.out.println("Some generic animal sound");
    }}
class Dog extends Animal {
    public void makeSound() {
        System.out.println("Bark");
    }}
class Cat extends Dog {
    public void makeSound() {
        System.out.println("Meow");
    }}
public class abcd {
    public static void main(String[] args) {
        Dog animals = new Dog();
        animals.makeSound();// This will print "Bark"
        Cat animal = new Cat();
        animal.makeSound(); // This will print "Meow"
    }}
```

Output:-