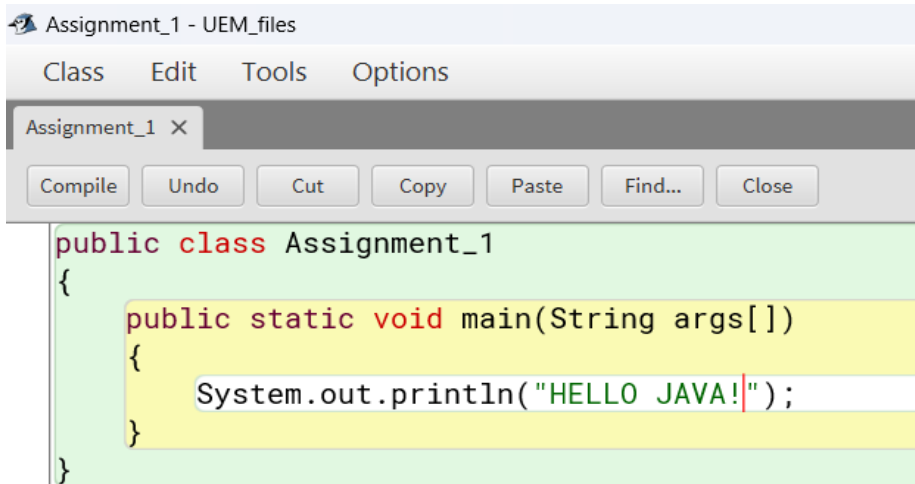


## OOPs Assignment 1

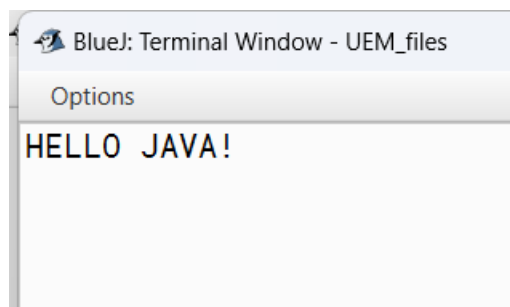
1. WAP in Java to print "HELLO JAVA".



The screenshot shows a Java IDE window titled "Assignment\_1 - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The code editor displays the following Java code:

```
public class Assignment_1
{
    public static void main(String args[])
    {
        System.out.println("HELLO JAVA!");
    }
}
```

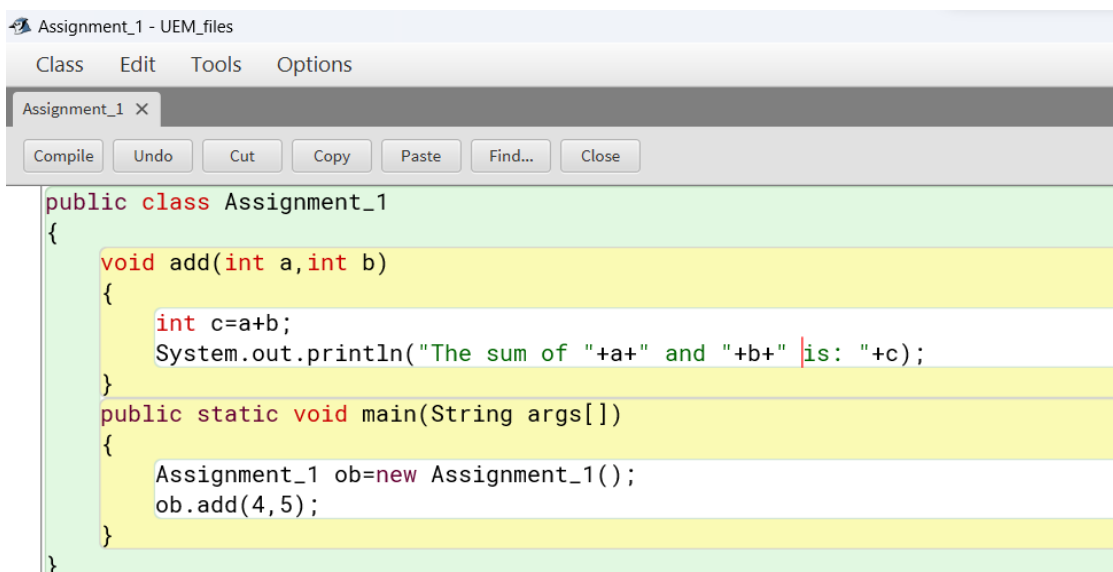
Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The menu bar includes "Options". The terminal displays the output of the Java program:

```
HELLO JAVA!
```

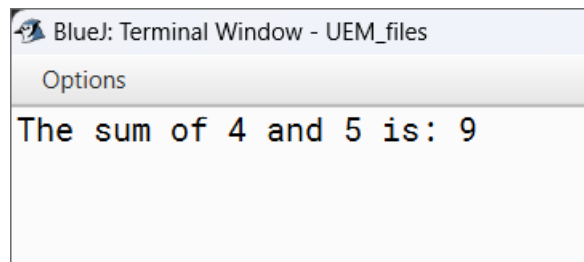
2. Write a Java Program to add two numbers by declaring variables value.



The screenshot shows a Java IDE window titled "Assignment\_1 - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The code editor displays the following Java code:

```
public class Assignment_1
{
    void add(int a,int b)
    {
        int c=a+b;
        System.out.println("The sum of "+a+" and "+b+" is: "+c);
    }
    public static void main(String args[])
    {
        Assignment_1 ob=new Assignment_1();
        ob.add(4,5);
    }
}
```

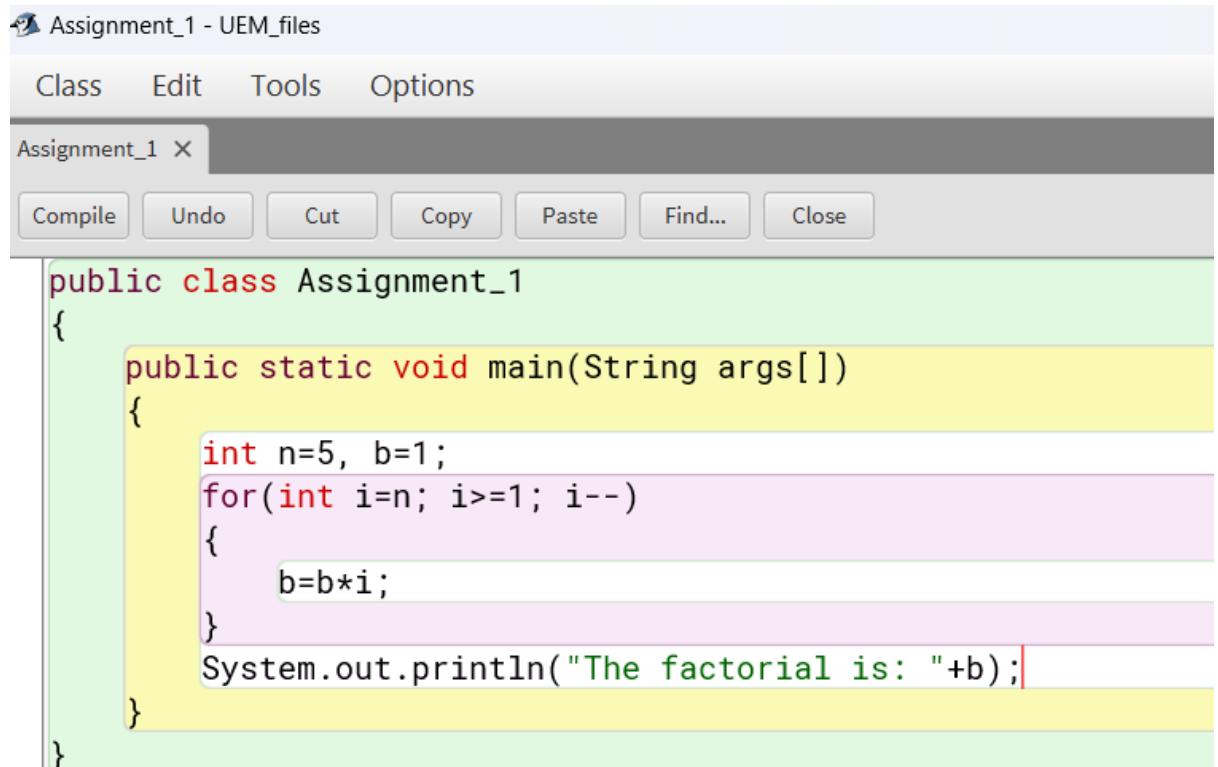
Output:



A terminal window titled "BlueJ: Terminal Window - UEM\_files" with an "Options" button. The output text is "The sum of 4 and 5 is: 9".

```
BlueJ: Terminal Window - UEM_files
Options
The sum of 4 and 5 is: 9
```

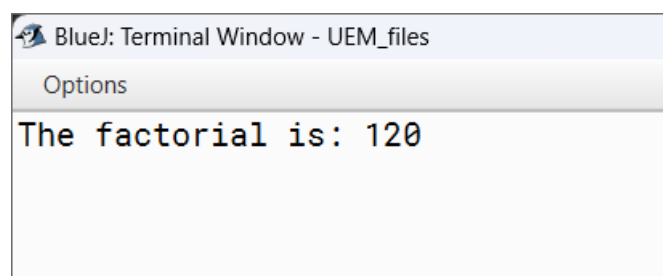
3. WAP in Java to calculate the factorial of a declared value.



The BlueJ IDE shows a class named "Assignment\_1". The code is as follows:

```
public class Assignment_1
{
    public static void main(String args[])
    {
        int n=5, b=1;
        for(int i=n; i>=1; i--)
        {
            b=b*i;
        }
        System.out.println("The factorial is: "+b);
    }
}
```

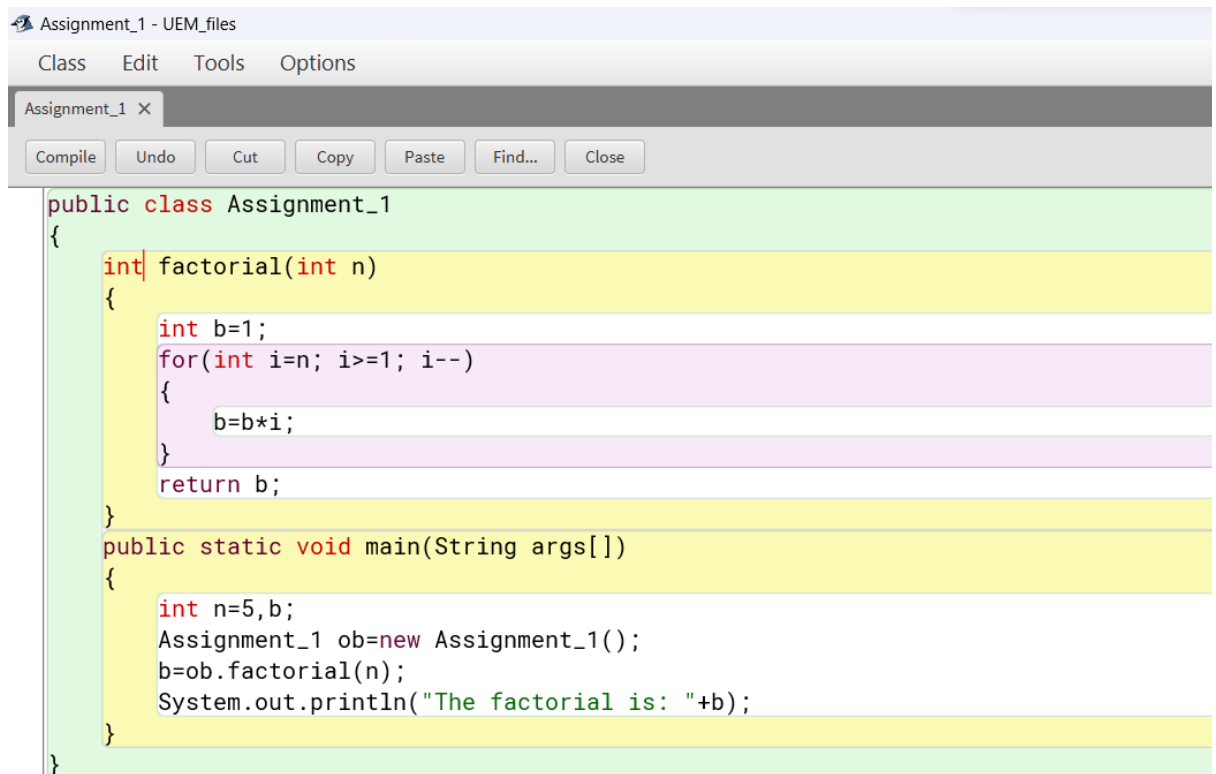
Output:



A terminal window titled "BlueJ: Terminal Window - UEM\_files" with an "Options" button. The output text is "The factorial is: 120".

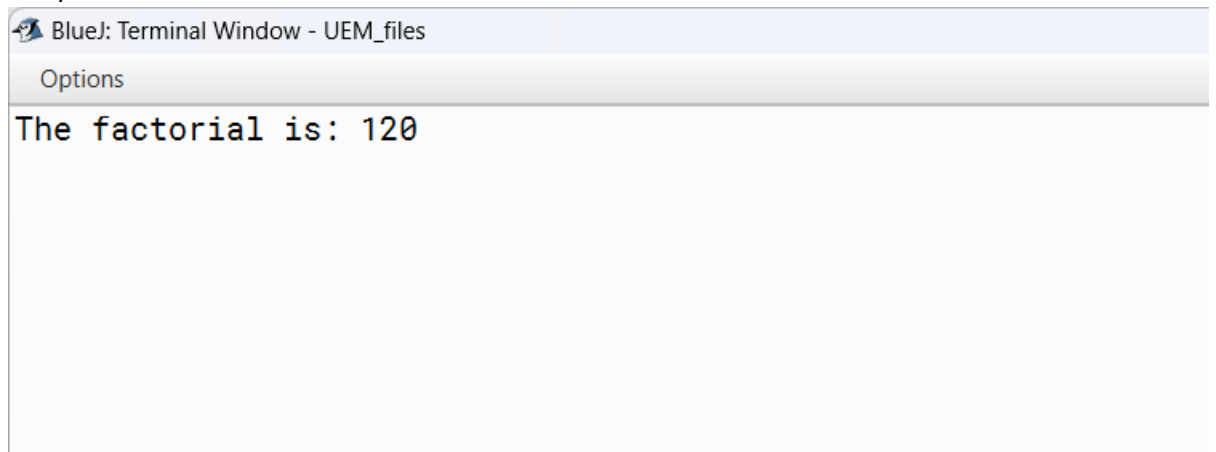
```
BlueJ: Terminal Window - UEM_files
Options
The factorial is: 120
```

4. WAP in Java to calculate factorial value of a declared value by separate method segment.



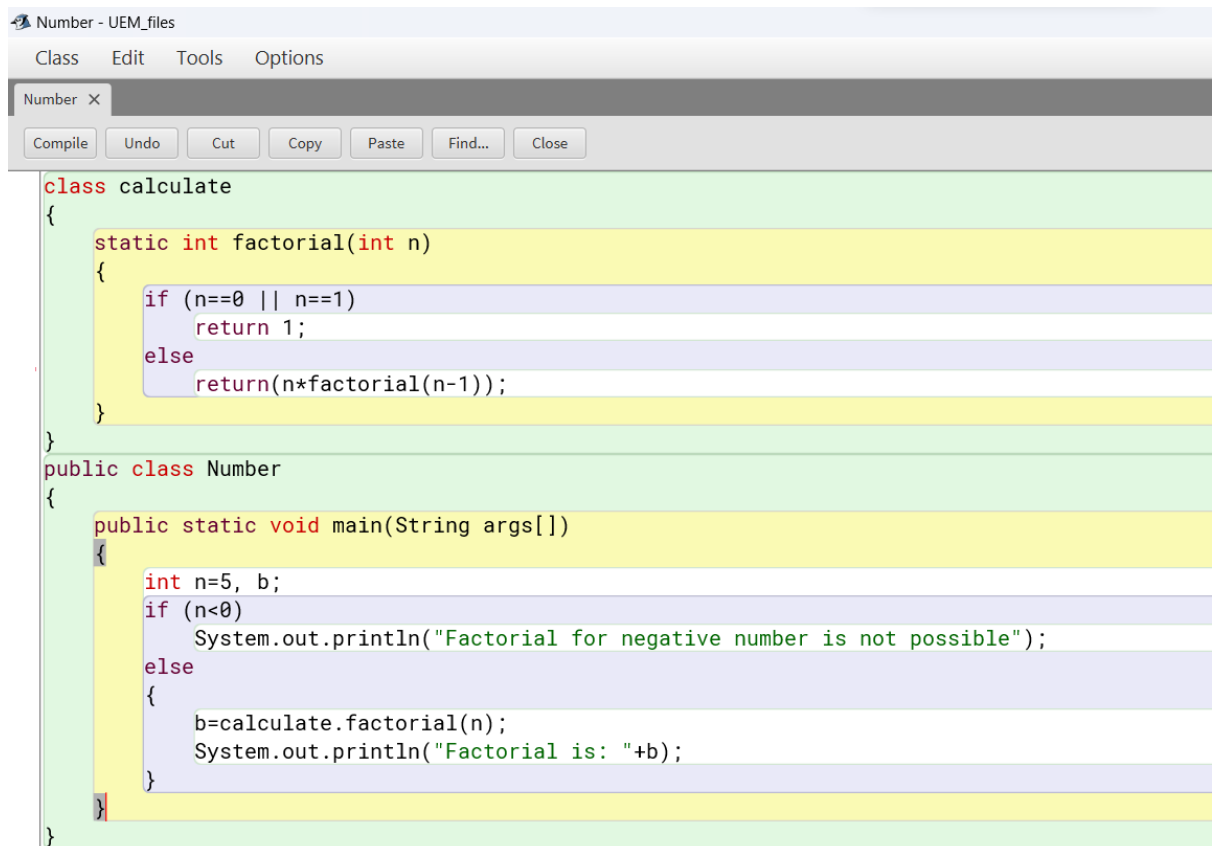
```
public class Assignment_1
{
    int factorial(int n)
    {
        int b=1;
        for(int i=n; i>=1; i--)
        {
            b=b*i;
        }
        return b;
    }
    public static void main(String args[])
    {
        int n=5,b;
        Assignment_1 ob=new Assignment_1();
        b=ob.factorial(n);
        System.out.println("The factorial is: "+b);
    }
}
```

Output:



```
BlueJ: Terminal Window - UEM_files
Options
The factorial is: 120
```

5. Write a Java Program to calculate factorial value of a declared variable by creating separate class and method for factorial segment.

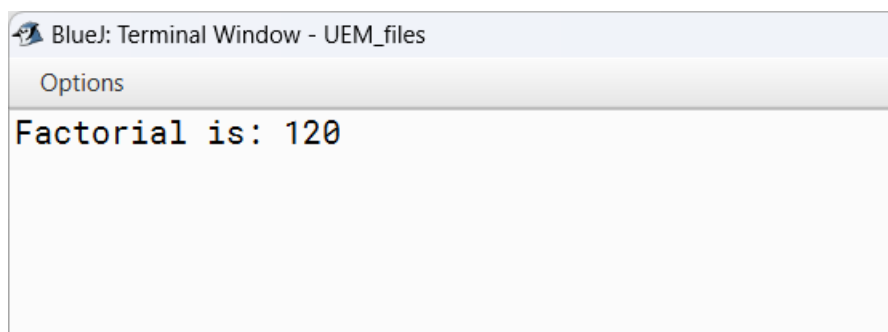


The screenshot shows a Java IDE window titled "Number - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main editor area displays the following Java code:

```
class calculate
{
    static int factorial(int n)
    {
        if (n==0 || n==1)
            return 1;
        else
            return(n*factorial(n-1));
    }
}

public class Number
{
    public static void main(String args[])
    {
        int n=5, b;
        if (n<0)
            System.out.println("Factorial for negative number is not possible");
        else
        {
            b=calculate.factorial(n);
            System.out.println("Factorial is: "+b);
        }
    }
}
```

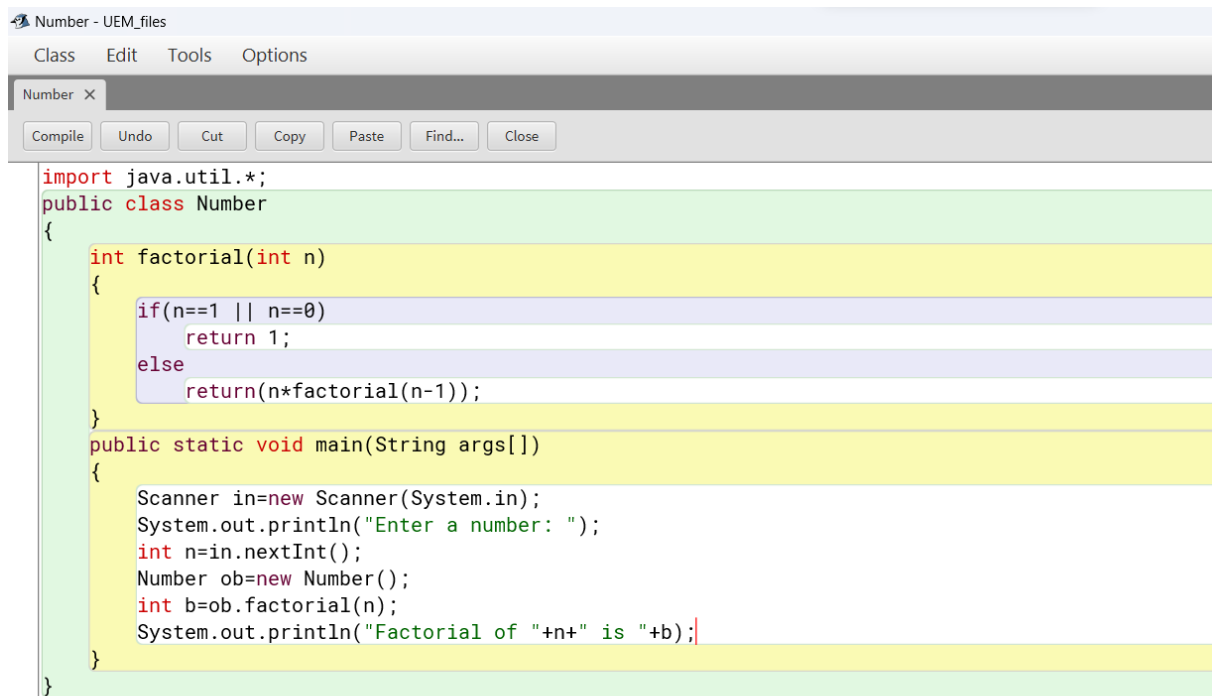
Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The menu bar includes "Options". The terminal displays the output of the Java program:

```
Factorial is: 120
```

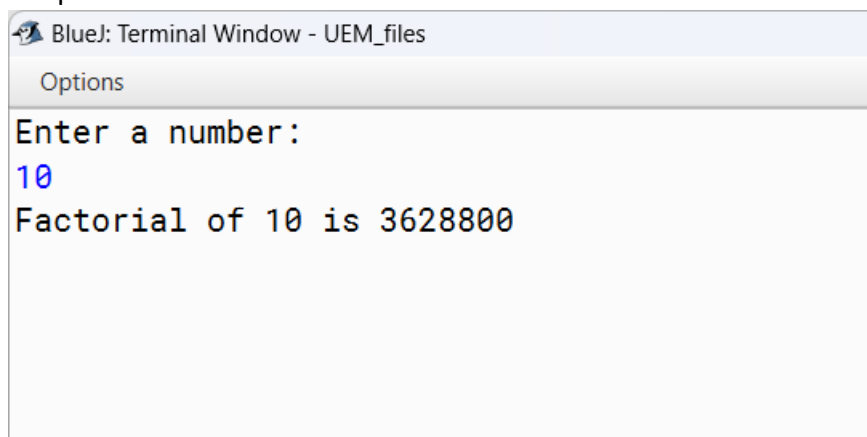
6. Write a Java Program to calculate factorial value of a variable by taking input from command line.



The screenshot shows a Java IDE window titled "Number - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main editor area displays the following Java code:

```
import java.util.*;
public class Number
{
    int factorial(int n)
    {
        if(n==1 || n==0)
            return 1;
        else
            return(n*factorial(n-1));
    }
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter a number: ");
        int n=in.nextInt();
        Number ob=new Number();
        int b=ob.factorial(n);
        System.out.println("Factorial of "+n+" is "+b);
    }
}
```

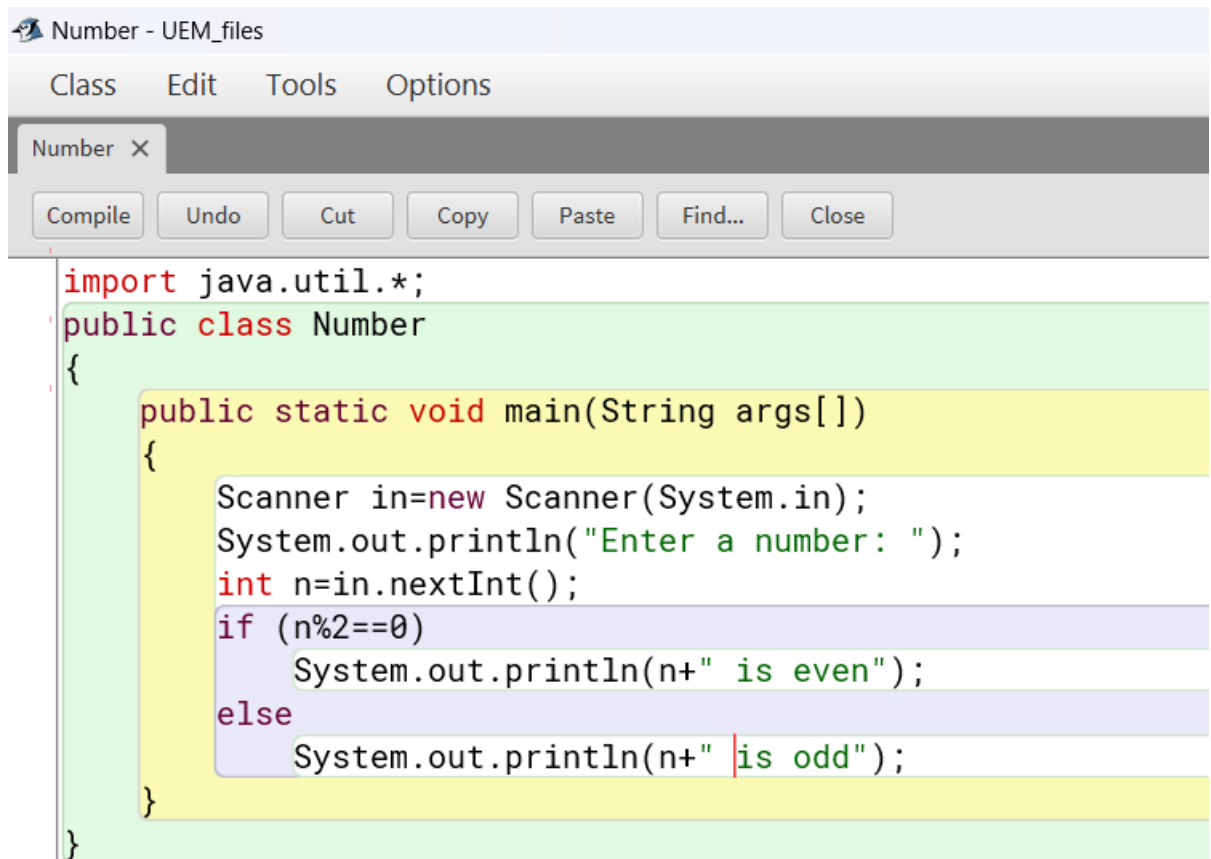
Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The menu bar includes "Options". The terminal displays the following output:

```
Enter a number:
10
Factorial of 10 is 3628800
```

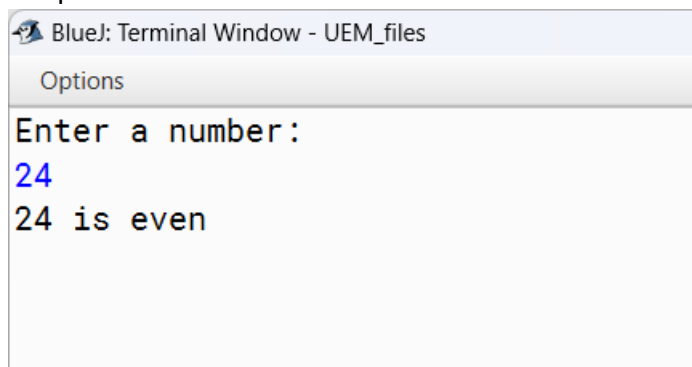
7. WAP in Java to display whether a number is odd or even.



The screenshot shows a Java IDE window titled "Number - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a tab labeled "Number X". A toolbar contains buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main editor area displays the following Java code:

```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter a number: ");
        int n=in.nextInt();
        if (n%2==0)
            System.out.println(n+" is even");
        else
            System.out.println(n+" is odd");
    }
}
```

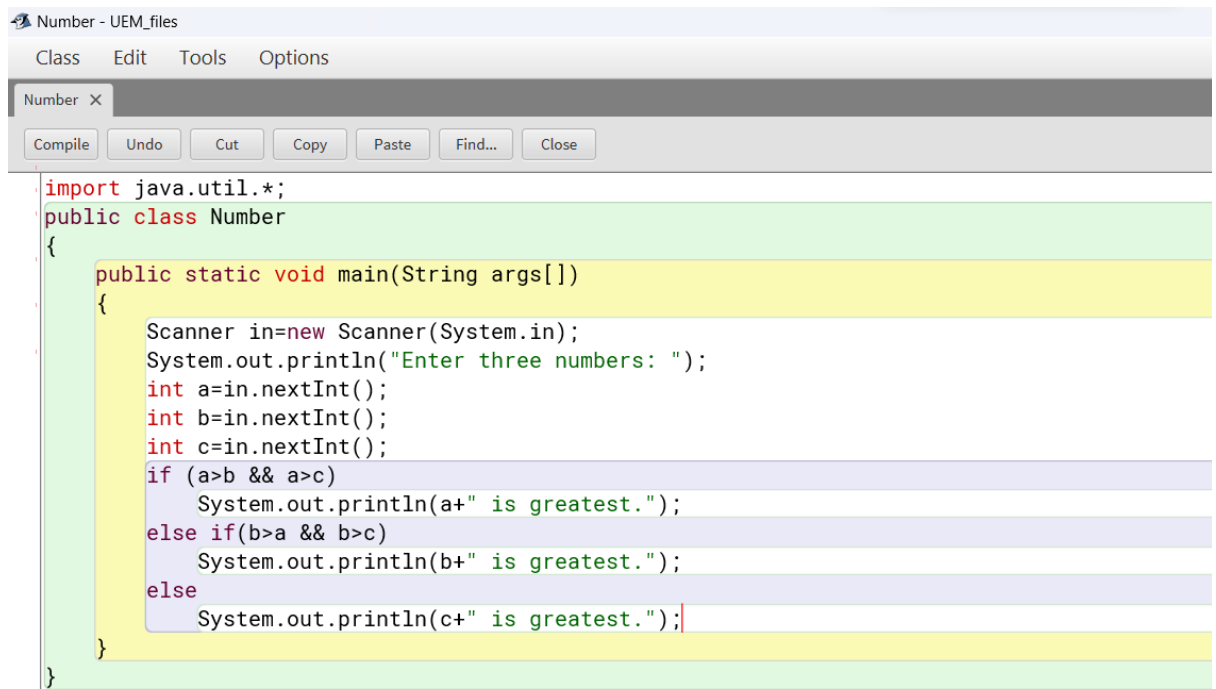
Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The menu bar includes "Options". The terminal displays the following output:

```
Enter a number:
24
24 is even
```

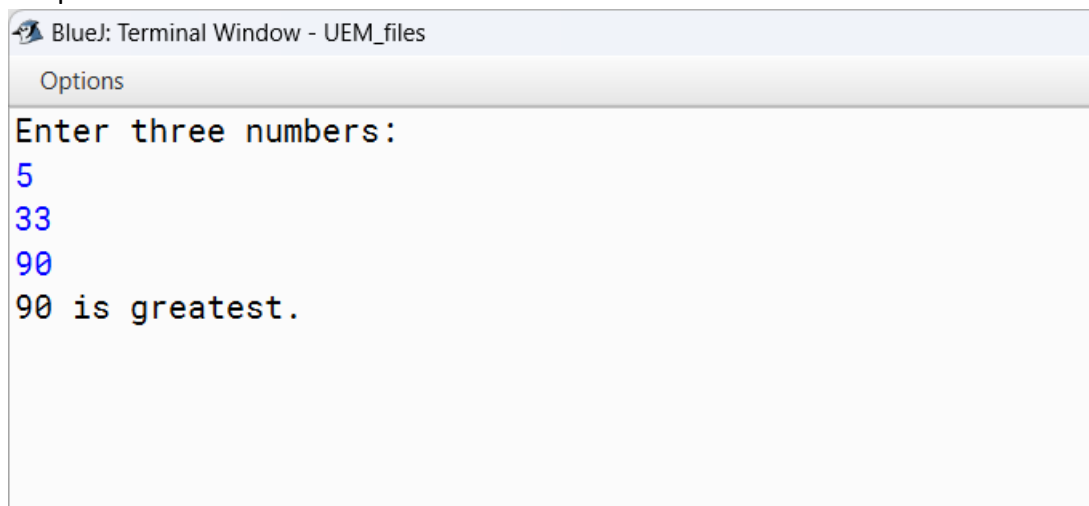
8. WAP in Java to find maximum of three numbers.



The screenshot shows a Java IDE window titled "Number - UEM\_files". The window has a menu bar with "Class", "Edit", "Tools", and "Options". Below the menu bar is a tab labeled "Number X". Under the tab are buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main area displays the following Java code:

```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter three numbers: ");
        int a=in.nextInt();
        int b=in.nextInt();
        int c=in.nextInt();
        if (a>b && a>c)
            System.out.println(a+" is greatest.");
        else if(b>a && b>c)
            System.out.println(b+" is greatest.");
        else
            System.out.println(c+" is greatest.");
    }
}
```

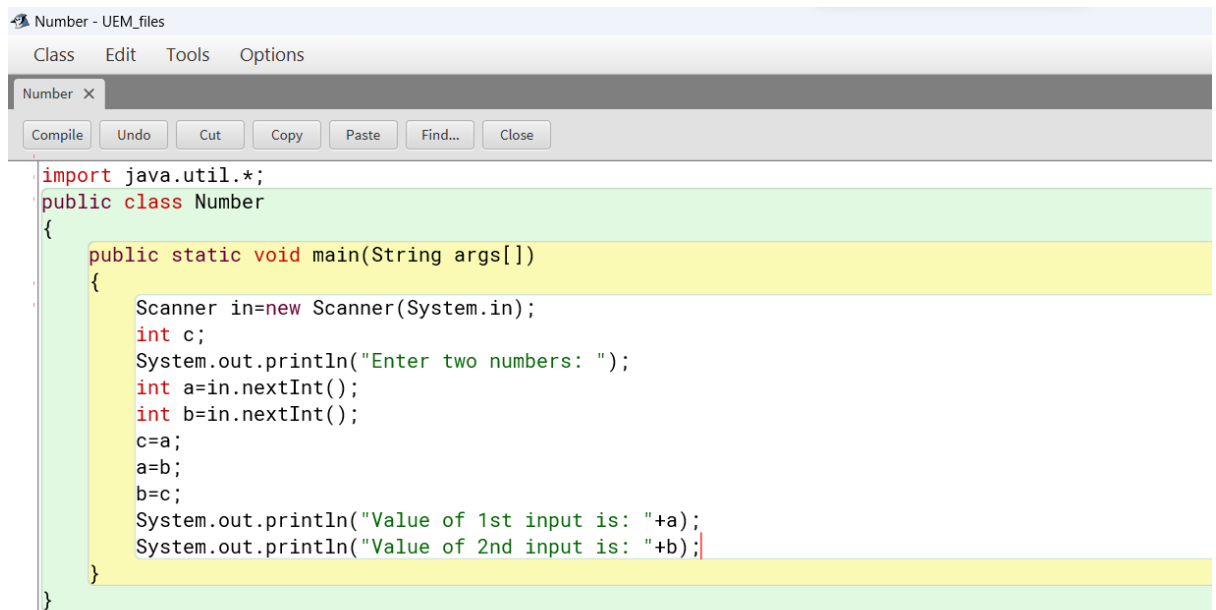
Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The window has an "Options" button. The terminal displays the following output:

```
Enter three numbers:
5
33
90
90 is greatest.
```

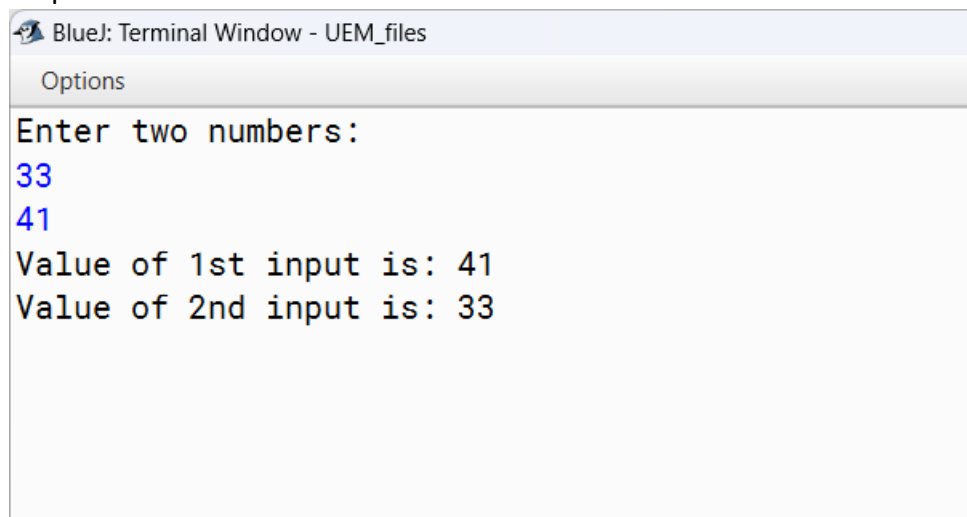
9. WAP in Java to swap two numbers.



The screenshot shows a Java IDE window titled "Number - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". Below the menu bar is a toolbar with buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The main editor area displays the following Java code:

```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        int c;
        System.out.println("Enter two numbers: ");
        int a=in.nextInt();
        int b=in.nextInt();
        c=a;
        a=b;
        b=c;
        System.out.println("Value of 1st input is: "+a);
        System.out.println("Value of 2nd input is: "+b);
    }
}
```

Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The terminal displays the output of the Java program:

```
Enter two numbers:
33
41
Value of 1st input is: 41
Value of 2nd input is: 33
```

10. WAP in Java to check whether a year is leap year or not.



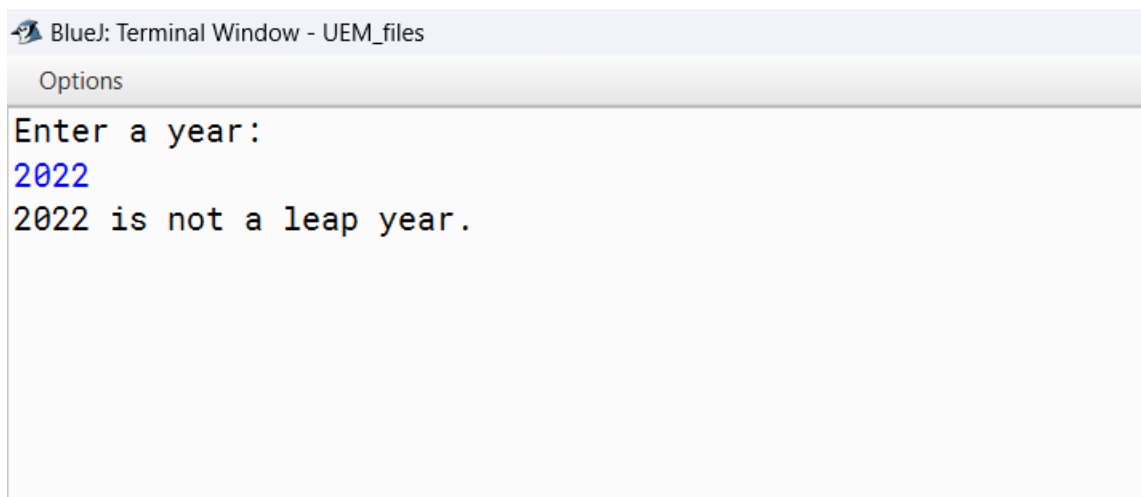


The screenshot shows a Java IDE window titled "Number - UEM\_files". The menu bar includes "Class", "Edit", "Tools", and "Options". The toolbar has buttons for "Compile", "Undo", "Cut", "Copy", "Paste", "Find...", and "Close". The code editor displays the following Java code:

```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter a year: ");
        int a=in.nextInt();

        if(a%4==0)
            System.out.println(a+" is leap year.");
        else
            System.out.println(a+" is not a leap year.");
    }
}
```

Output:



The screenshot shows a terminal window titled "BlueJ: Terminal Window - UEM\_files". The output of the program is as follows:

```
Enter a year:
2022
2022 is not a leap year.
```

11. Write a Java program for following grading system.

Note:

Percentage  $\geq 90\%$  : Grade A

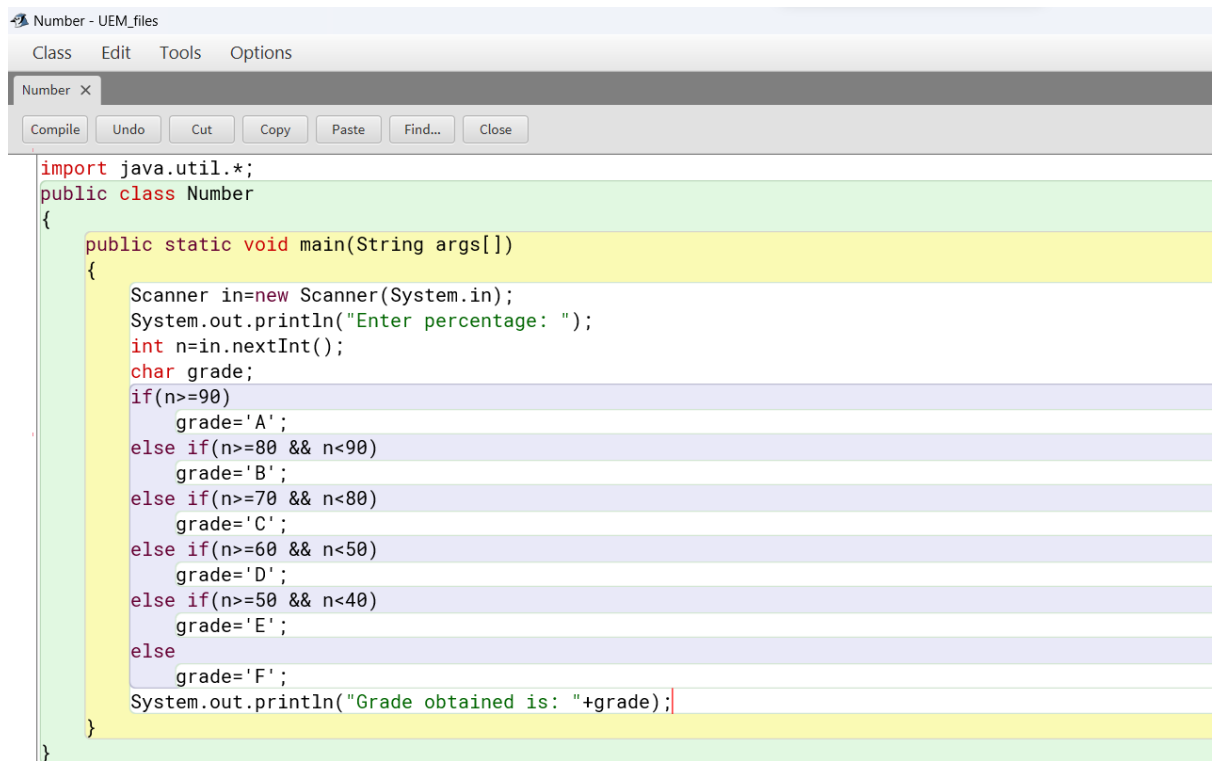
Percentage  $\geq 80\%$  : Grade B

Percentage  $\geq 70\%$  : Grade C

Percentage  $\geq 60\%$  : Grade D

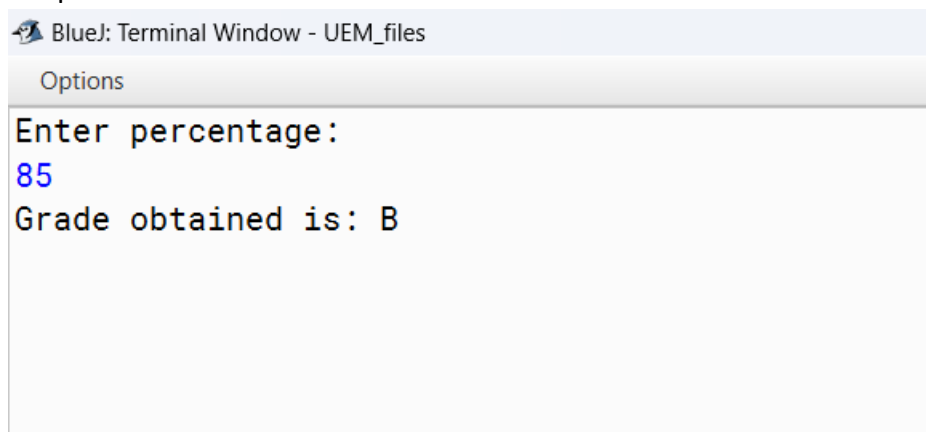
Percentage  $\geq 40\%$  : Grade E

Percentage  $< 40\%$  : Grade F



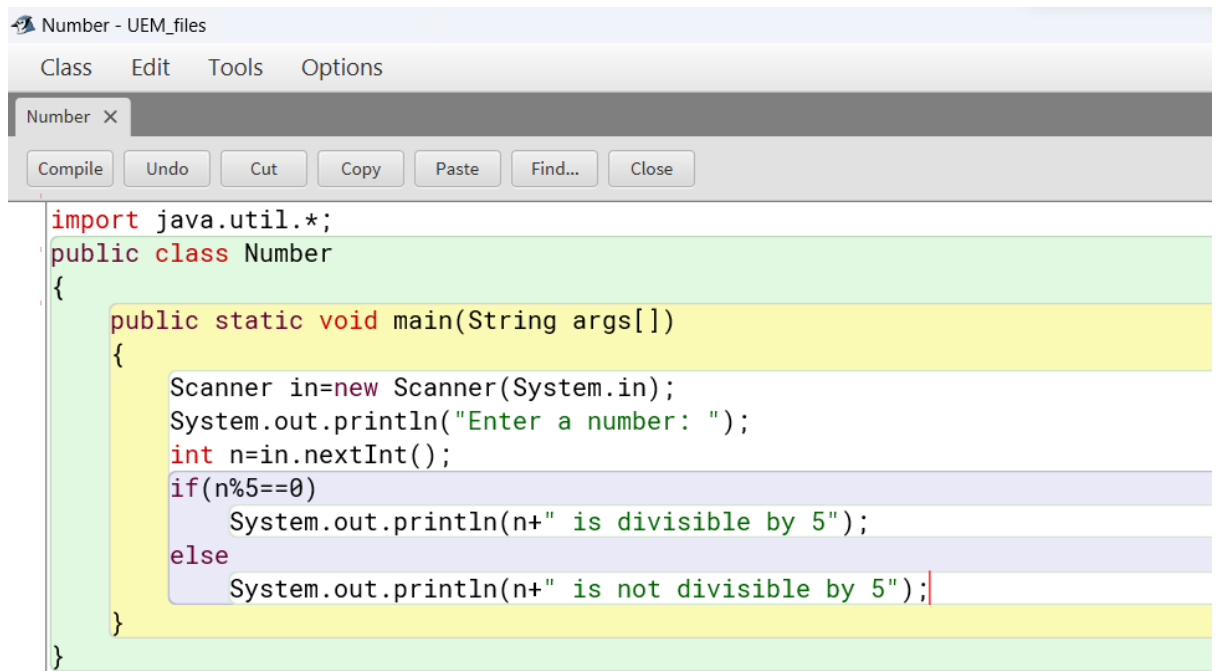
```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter percentage: ");
        int n=in.nextInt();
        char grade;
        if(n>=90)
            grade='A';
        else if(n>=80 && n<90)
            grade='B';
        else if(n>=70 && n<80)
            grade='C';
        else if(n>=60 && n<50)
            grade='D';
        else if(n>=50 && n<40)
            grade='E';
        else
            grade='F';
        System.out.println("Grade obtained is: "+grade);
    }
}
```

Output:



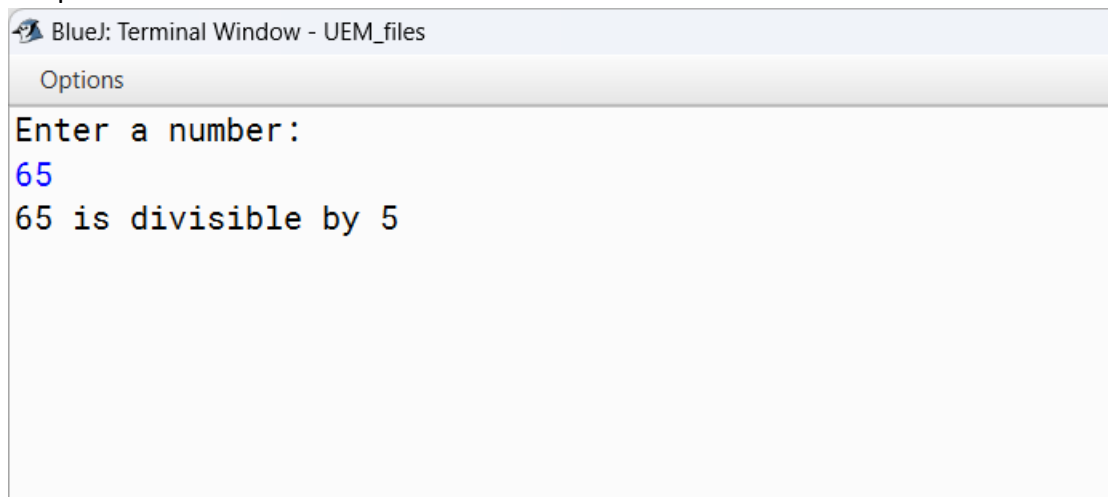
```
BlueJ: Terminal Window - UEM_files
Options
Enter percentage:
85
Grade obtained is: B
```

12. WAP in Java to check whether a number is divisible by 5 or not.



```
import java.util.*;
public class Number
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Enter a number: ");
        int n=in.nextInt();
        if(n%5==0)
            System.out.println(n+" is divisible by 5");
        else
            System.out.println(n+" is not divisible by 5");
    }
}
```

Output:



```
Options
Enter a number:
65
65 is divisible by 5
```