**//Pattern Printing**

**public class TrianglePattern {**

**public static void main(String[] args)**

**{**

**int rows = 5; // Number of rows in the pattern**

**for (int i = 1; i <= rows; i++)**

**{**

**// Print spaces before the pattern**

**for (int j = 1; j <= rows - i; j++)**

**{**

**System.out.print(" ");**

**}**

**// Print stars in the pattern**

**for (int k = 1; k <= i; k++)**

**{**

**System.out.print("\* ");**

**}**

**// Move to the next line**

**System.out.println();**

**}**

**}**

**}**

**Output:**

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**-------------------------------------------------------------**

**import java.util.\*;**

public class MathOperations {

public static void main(String[] args) {

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

// Print menu

System.out.println("Choose an operation:");

System.out.println("1. Addition (+)");

System.out.println("2. Subtraction (-)");

System.out.println("3. Multiplication (\*)");

System.out.println("4. Division (/)");

System.out.print("Enter your choice (1-4): ");

// Get user choice

int **choice** **= sc.nextInt();**

// Get operands

System.out.print("Enter first operand: ");

double **operand1** = sc.nextDouble();

System.out.print("Enter second operand: ");

double **operand2** = sc.nextDouble();

// Perform operation based on user choice

switch (**choice**) {

**case** 1: // Addition

System.out.println("Result: " + (operand1 + operand2));

break;

**case** 2: // Subtraction

System.out.println("Result: " + (operand1 - operand2));

break;

**case** 3: // Multiplication

System.out.println("Result: " + (operand1 \* operand2));

break;

**case** 4: // Division

if (operand2 == 0) {

System.out.println("Error: division by zero");

} else {

System.out.println("Result: " + (operand1 / operand2));

}

break;

**default**: // Invalid choice

System.out.println("Error: invalid choice");

break;

}

sc.close();

}

}

**import java.util.\*;**

class Vector1

{

public static void main(String[] args)

{

**Vector list=new Vector();**

list.add("bat");

list.add("cat");

list.add("ant");

list.add("ant");

list.add("zebra");

//**System.out.println(list);**

**Iterator i=list.iterator();**

**while (i.hasNext())**

**{**

**System.out.println(i.next());**

**}**

}

--------------------------------------------

public class Factorial {

public **static** **int** **myfact**(int **n)**

{

// Base case: factorial of 0 or 1 is 1

if (n == 0 || n == 1)

{

**return 1;**

}

**return n \* myfact (n - 1);** // Recursive case: multiply current number with **myfact** of (n-1)

}

public static void main(String[] args)

{

int **number** = 5; // you can use scanner here if required

int result = **myfact** (**number**); //static method can be called directly

System.out.println("Factorial of " + **number** + " is: " + **result**);

}

}

Array of Object

public class Student {

private String name;

private int age;

// Constructor

public Student(String name, int age) {

this.name = name;

this.age = age;

}

// Getters

public String getName() {

return name;

}

public int getAge() {

return age;

}

// Setters

public void setName(String name) {

this.name = name;

}

public void setAge(int age) {

this.age = age;

}

public static void main(String[] args) {

Student[] students = new Student[3]; // Creating an array of Student objects

// Initializing array elements with Student objects

students[0] = new Student("Amar", 20);

students[1] = new Student("Bina", 22);

students[2] = new Student("Chanda", 21);

// Accessing and using array elements

for (int i = 0; i < students.length; i++) {

System.out.println("Name: " + students[i].getName());

System.out.println("Age: " + students[i].getAge());

System.out.println();

}

}

}