***Exercise No:1***

**package** Shapes;

**class** Square {

**public** **void** draw() {

System.***out***.println("Square drawn.");

}

}

**class** Triangle {

**public** **void** draw() {

System.***out***.println("Triangle drawn.");

}

}

**class** Circle {

**public** **void** draw() {

System.***out***.println("Circle drawn.");

}

}

**public** **class** TestShapes {

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

Square square = **new** Square();

Triangle triangle = **new** Triangle();

Circle circle = **new** Circle();

square.draw();

triangle.draw();

circle.draw();

}

}

**OUTPUT:**

A screenshot of a computer

Description automatically generated

***Exercise No:2***

**package** Shapes;

**class** Shapes {

**public** **double** area(**double** side) {

**return** side \* side; // Square

}

**public** **double** area(**double** length, **double** breadth) {

**return** length \* breadth; // Rectangle

}

**public** **double** perimeter(**double** side) {

**return** 4 \* side; // Square

}

**public** **double** perimeter(**double** length, **double** breadth) {

**return** 2 \* (length + breadth); // Rectangle

}

}

**public** **class** TestShapes1 {

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

Shapes shapes = **new** Shapes();

System.***out***.println("Area of square: " + shapes.area(5));

System.***out***.println("Area of rectangle: " + shapes.area(5, 10));

System.***out***.println("Perimeter of square: " + shapes.perimeter(5));

System.***out***.println("Perimeter of rectangle: " + shapes.perimeter(5, 10));

}

}

**OUTPUT:**

A screenshot of a computer

Description automatically generated

***Exercise No:3***

**package** Shapes;

**class** Calculator {

**public** **int** add(**int** a, **int** b) {

**return** a + b;

}

**public** **double** add(**double** a, **double** b) {

**return** a + b;

}

**public** **double** add(**int** a, **double** b) {

**return** a + b;

}

**public** **double** add(**double** a, **int** b) {

**return** a + b;

}

}

**public** **class** TestCalculator {

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

Calculator calc = **new** Calculator();

System.***out***.println("Addition of int: " + calc.add(5, 10));

System.***out***.println("Addition of double: " + calc.add(5.5, 10.5));

System.***out***.println("Addition of int and double: " + calc.add(5, 10.5));

System.***out***.println("Addition of double and int: " + calc.add(5.5, 10));

}

}

**OUTPUT:**

A screenshot of a computer

Description automatically generated

***Exercise No:4***

**package** Shapes;

**class** Vehicle {

**public** **void** drive() {

System.***out***.println("Vehicle is driving.");

}

}

**class** Truck **extends** Vehicle {

**public** **void** loadCargo() {

System.***out***.println("Truck is loading cargo.");

}

}

**class** Bus **extends** Vehicle {

**public** **void** pickPassengers() {

System.***out***.println("Bus is picking up passengers.");

}

}

**class** Car **extends** Vehicle {

**public** **void** openTrunk() {

System.***out***.println("Car trunk is open.");

}

}

**public** **class** Road {

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

Truck truck = **new** Truck();

Bus bus = **new** Bus();

Car car = **new** Car();

truck.drive();

truck.loadCargo();

bus.drive();

bus.pickPassengers();

car.drive();

car.openTrunk();

}

}

**OUTPUT:**

A screenshot of a computer

Description automatically generated