```java
package ex1;

public class Calculator {

    /** Main method */
    public static void main(String[] args) {
        // Check command-line arguments
        if (args.length != 3) {
            System.out.println("Usage: java Calculator operand1 operator operand2");
            System.exit(0);
        }

        // The result of the operation
        int result = 0;

        // Determine the operator
        switch (args[1].charAt(0)) {
            case '+':
                result = Integer.parseInt(args[0]) + Integer.parseInt(args[2]);
                break;
            case '-':
                result = Integer.parseInt(args[0]) - Integer.parseInt(args[2]);
                break;
            case 'x':
            case '*':
                result = Integer.parseInt(args[0]) * Integer.parseInt(args[2]);
                break;
            case '/':
                result = Integer.parseInt(args[0]) / Integer.parseInt(args[2]);
        }

        // Display result
        System.out.println(args[0] + ' ' + args[1] + ' ' + args[2] + " = " + result);
    }
}

```

```java

package ex1;

/**
 *
 * @author vanting
 */
class Car {

    int speed;          // kilometer per hour
    int distance;       // kilometer
    static int numOfCars = 0;

    void build(int s, int d) {

        this.speed = s;
        this.distance = d;
        Car.numOfCars++;
    }

    /**
     * Update the distance for driving of an hour
     */
    int move() {
        this.distance += this.speed;
        return this.distance;
    }

    public static void main(String[] args) {
        Car bus = new Car();
        Car taxi = new Car();
        bus.build(5, 0);
        taxi.build(8, 0);
        System.out.println("No. of cars created: " + Car.numOfCars);
        System.out.println("Driving 1 hr: bus at " + bus.move() + "km and taxi at " +
taxi.move() + "km");
        System.out.println("Driving 2 hrs: bus at " + bus.move() + "km and taxi at "
+ taxi.move() + "km");
    }
}

```

```java
package ex1;

import javax.swing.JOptionPane;

public class CountEachLetter {

    /** Main method */
    public static void main(String[] args) {
        // Prompt the user to enter a string
        String s = JOptionPane.showInputDialog("Enter a string:");

        // Invoke the countLetters method to count each letter
        int[] counts = countLetters(s.toLowerCase());

        // Declare and initialize output string
        String output = "";

        // Display results
        for (int i = 0; i < counts.length; i++) {
            if (counts[i] != 0) {
                output += (char) ('a' + i) + " appears  " + counts[i]
                        + ((counts[i] == 1) ? " time\n" : " times\n");
            }
        }

        // Display the result
        System.out.println(output);
        //JOptionPane.showMessageDialog(null, output);
    }

    // Count each letter in the string
    public static int[] countLetters(String s) {
        int[] counts = new int[26];

        for (int i = 0; i < s.length(); i++) {
            if (Character.isLetter(s.charAt(i))) {
                counts[s.charAt(i) - 'a']++;
            }
        }

        return counts;
    }
}

```

```java
package ex1;

/**
 * The main/business logic comes here. This program makes use of the Student class
 * to check student's standing.
 *
 * @author vanting
 */
class FindAcademicStanding {
    // This is the entry point of a program
    public static void main(String[] args) {

        //System.out.println(args[0]);

        // create two objects of Student type
        Student bill = new Student();
        Student larry = new Student();

        // configure their name and gpa
        bill.setup("Bill Chan", 1.5);
        larry.setup("Larry Chow", 4);

        // display their academic standing
        bill.showAcademicStanding();
        larry.showAcademicStanding();
    }
}

```

```java
package ex1;

/**
 *
 * @author vanting
 */
class MaxFinder {

    /** Return the max between two int values */
    int max(int num1, int num2) {
        if (num1 > num2) {
            return num1;
        } else {
            return num2;
        }
    }

    /** Find the max between two double values */
    double max(double num1, double num2) {
        if (num1 > num2) {
            return num1;
        } else {
            return num2;
        }
    }

    /** Return the max among three double values */
    double max(double num1, double num2, double num3) {
        return max(max(num1, num2), num3);
    }
}

```

```java
package ex1;

import javax.swing.JOptionPane;

class NumberCounter {

    final int TOTAL_NUMBERS = 6;
    int[] numbers = new int[TOTAL_NUMBERS];
    int max = 0;
    int count = 0;

    /** instead of putting the main in a dummy class,
     *  you can put it here for short
     */
    public static void main(String[] args) {
        NumberCounter counter = new NumberCounter();
        counter.getNumbers();
        counter.findMax();
        counter.count();
        counter.showResult();
    }

    // Read all numbers
    void getNumbers() {
        for (int i = 0; i < numbers.length; i++) {
            String numString = JOptionPane.showInputDialog("Enter a number:");
            // Convert string into integer
            numbers[i] = Integer.parseInt(numString);
        }
    }

    // Find the largest
    void findMax() {
        max = numbers[0];
        for (int i = 1; i < numbers.length; i++) {
            if (max < numbers[i]) {
                max = numbers[i];
            }
        }
    }

    // Find the occurrence of the largest number
    void count() {
        count = 0;
        for (int i = 0; i < numbers.length; i++) {
            if (numbers[i] == max) {
                count++;
            }
        }
    }

    // Prepare the result
    void showResult() {
        String output = "The array is ";
        for (int i = 0; i < numbers.length; i++) {
            output += numbers[i] + " ";
        }

        output += "\nThe largest number is " + max;
        output += "\nThe occurrence count of the largest number " + "is " + count;

        // Display the result
        JOptionPane.showMessageDialog(null, output);
    }
}

```

```java
package ex1;

/**
 *
 * @author vanting
 */
class Student {

    // Declare the variables you need to represent a student
    String name = "";
    double gpa = 0;

    /*  Used to configure the values
        of a student object
     */
    void setup(String studentName, double studentGpa) {
        this.name = studentName;
        this.gpa = studentGpa;
    }

    /** Display the academic
        standing of a student
     */
    void showAcademicStanding() {

        System.out.print("The Academic Standing of " + this.name + " is: ");
        if(this.gpa > 1.7)
            System.out.println("Good Standing");
        else
            System.out.println("Academic Warning");
    }
}

```

```java
package ex1;

class TestMethodOverloading {

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

        MaxFinder maxer = new MaxFinder();

        // Invoke the max method with int parameters
        System.out.println("The maximum between 3 and 4 is " + maxer.max(3, 4));

        // Invoke the max method with the double parameters
        System.out.println("The maximum between 3.0 and 5.4 is " + maxer.max(3.0, 5.4));

        // Invoke the max method with three double parameters
        System.out.println("The maximum between 3.0, 5.4, and 10.14 is " + maxer.max(3.0, 5.4, 10.14));
    }
}

```

```java
package ex1;

class TestUtility {

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

        int a = -15;
        System.out.println("The absolute value of a is " + Utility.abs(a));
    }
}



```

```java
package ex1;

/**
 *
 * @author vanting
 */
class Utility {

    static int abs(int num) {
        return (num<0) ? (-num) : (num);
    }

}
```