1. Write a program to create a class Student along with two methods getData(),printData() to get the value through argument and display the data in printData. Create the two objects s1 ,s2 to declare and access the values from class STtest.

```
public class Student {
  // instance variables
  private String name;
  private int age;
  private String course;

  public void getData(String name, int age, String course) {
    this.name = name;
    this.age = age;
    this.course = course;}
 public void printData() {
    System.out.println("Name: " + name);
    System.out.println("Age: " + age);
    System.out.println("Course: " + course);}}

public class STtest {
  public static void main(String[] args) {
    // create two objects of the Student class
    Student s1 = new Student();
    Student s2 = new Student();

    s1.getData("John", 20, "Computer Science");

    s2.getData("Jane", 22, "Mechanical Engineering");

    System.out.println("Student 1:");
    s1.printData();
    System.out.println();
System.out.println("Student 2:");
    s2.printData();}}
```

2. Using parameterized constructor with two parameters id and name. While creating the objects obj1 and obj2 passed two arguments so that this constructor gets invoked after creation of obj1 and obj2.

```
public class Student {
  private int id;
  private String name;

  public Student(int id, String name) {
    this.id = id;
    this.name = name;
  }

  public int getId() {
    return id;
  }

  public String getName() {
    return name;
  }
}

public class Main {
  public static void main(String[] args) {
    Student obj1 = new Student(1, "John");
    Student obj2 = new Student(2, "Jane");
  }
}
```

3. Write a Java Program which takes 10 integer values from user and store them in an array. then print all these values on screen with sum and average of these numbers.

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    int[] numbers = new int[10];
    int sum = 0;

    // Read in the numbers from the user
    for (int i = 0; i < 10; i++) {
      System.out.print("Enter a number: ");
      numbers[i] = scan.nextInt();
      sum += numbers[i];
    }

    // Print the numbers
    System.out.println("Numbers: ");
    for (int i = 0; i < 10; i++) {
      System.out.print(numbers[i] + " ");
    }
    System.out.println();

    // Print the sum and average
    double average = (double) sum / 10;
    System.out.println("Sum: " + sum);
    System.out.println("Average: " + average);
  }
}
```

4. Write a progam which prints even and odd numbers between 1 to 100 using a single loop. (Hint StringBuffer can be used) output Even Numbers 2, 4, 6, ... ,100 ODD Numbers 1, 3, 9, ... ,99

```
public class Main {
  public static void main(String[] args) {
    StringBuffer evenNumbers = new StringBuffer("Even Numbers: ");
    StringBuffer oddNumbers = new StringBuffer("Odd Numbers: ");

    for (int i = 1; i <= 100; i++) {
      if (i % 2 == 0) {
        evenNumbers.append(i + ", ");
      } else {
        oddNumbers.append(i + ", ");
      }
    }

    // Remove the last comma and space from the strings
    evenNumbers.setLength(evenNumbers.length() - 2);
    oddNumbers.setLength(oddNumbers.length() - 2);

    // Print the strings
    System.out.println(evenNumbers);
    System.out.println(oddNumbers);
  }
}
```

5. Write a program to enter student information like (studentid, name, fathername, marks of 5 subjects). then it calculate its obtained marks, percentage and grade. Finally it displays all information (studentid, name, fathername, marks of 5 subjects, obtained marks, percentage and grade

```
import java.util.Scanner;

public class Student {
  private int id;
  private String name;
  private String fatherName;
  private int[] marks = new int[5];
  private int obtainedMarks;
  private double percentage;
  private String grade;

  public Student() {
    // Initialize the instance variables
    this.id = 0;
    this.name = "";
    this.fatherName = "";
    this.obtainedMarks = 0;
    this.percentage = 0.0;
    this.grade = "";
  }

  public void readData() {
    // Read the student information from the user
    Scanner scan = new Scanner(System.in);
    System.out.print("Enter student id: ");
    id = scan.nextInt();
    System.out.print("Enter student name: ");
    name = scan.next();
    System.out.print("Enter student father name: ");
    fatherName = scan.next();
    for (int i = 0; i < 5; i++) {
      System.out.print("Enter marks for subject " + (i + 1) + ": ");
      marks[i] = scan.nextInt();
      obtainedMarks += marks[i];
    }
  }

  public void calculatePercentage() {
    // Calculate the percentage and grade
```

```
    percentage = (double) obtainedMarks / 5;
    if (percentage >= 80) {
      grade = "A+";
    } else if (percentage >= 70) {
      grade = "A";
    } else if (percentage >= 60) {
      grade = "B";
    } else if (percentage >= 50) {
      grade = "C";
    } else {
      grade = "F";
    }
  }

  public void displayData() {
    // Display the student information
    System.out.println("Student Id: " + id);
    System.out.println("Student Name: " + name);
    System.out.println("Student Father Name: " + fatherName);
    System.out.print("Marks: ");
    for (int i = 0; i < 5; i++) {
      System.out.print(marks[i] + " ");
    }
    System.out.println();
    System.out.println("Obtained Marks: " + obtainedMarks);
    System.out.println("Percentage: " + percentage);
    System.out.println("Grade: " + grade);
  }
}

public class Main {
  public static void main(String[] args) {
    Student student = new Student();
    student.readData();
    student.calculatePercentage();
    student.displayData();
  }
}
```

6. Write a program to print three (3) tables simentenously. It will ask user for three table numbers, starting value and ending value. output will be like : 2 * 1 = 2 3 * 1 = 3 5 * 1 = 5 . . . . , 2 * 2 = 4 3 * 2 = 6 5 * 2 = 10

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    int table1, table2, table3;
    int start, end;

    System.out.print("Enter table 1 number: ");
    table1 = scan.nextInt();
    System.out.print("Enter table 2 number: ");
    table2 = scan.nextInt();
    System.out.print("Enter table 3 number: ");
    table3 = scan.nextInt();
    System.out.print("Enter start value: ");
    start = scan.nextInt();
    System.out.print("Enter end value: ");
    end = scan.nextInt();

    for (int i = start; i <= end; i++) {
      System.out.printf("%d * %d = %d\t%d * %d = %d\t%d * %d = %d\n",
                  table1, i, table1 * i, table2, i, table2 * i, table3, i, table3 * i);
    }
  }
}
```

7. Write a calulator program using switch case statement.

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    double num1, num2;
    char operator;
    double result;

    System.out.print("Enter first number: ");
    num1 = scan.nextDouble();
    System.out.print("Enter second number: ");
    num2 = scan.nextDouble();
    System.out.print("Enter operator (+, -, *, /): ");
    operator = scan.next().charAt(0);

    switch (operator) {
      case '+':
        result = num1 + num2;
        break;
      case '-':
        result = num1 - num2;
        break;
      case '*':
        result = num1 * num2;
        break;
      case '/':
        result = num1 / num2;
        break;
      default:
        System.out.println("Invalid operator");
        return;
    }

    System.out.println(num1 + " " + operator + " " + num2 + " = " + result);
  }
}
```

8. Write a program to enter three (3) numbers and print the maximum and minimum numbers among them.

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    int num1, num2, num3;

    System.out.print("Enter first number: ");
    num1 = scan.nextInt();
    System.out.print("Enter second number: ");
    num2 = scan.nextInt();
    System.out.print("Enter third number: ");
    num3 = scan.nextInt();

    int max = Math.max(Math.max(num1, num2), num3);
    int min = Math.min(Math.min(num1, num2), num3);

    System.out.println("Maximum number: " + max);
    System.out.println("Minimum number: " + min);
  }
}
```

9. Write a program which continuously takes an integer until a negative number is entered by the user

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    int num;

    do {
      System.out.print("Enter an integer (negative to exit): ");
      num = scan.nextInt();
      if (num >= 0) {
        System.out.println("You entered: " + num);
      }
    } while (num >= 0);

    System.out.println("Exiting program...");
  }
}
```