```java
Q.717...Write a Java program to find maximum of three numbers using this keyword
--------------------------------------------------------------------------------
class MaxOfThreeNumbers {
    int num1, num2, num3;

     MaxOfThreeNumbers(int num1, int num2, int num3) {
        this.num1 = num1;
        this.num2 = num2;
        this.num3 = num3;
    }

    int findMax()
    {
        int max = this.num1; // Assume num1 as the maximum initially

        if (this.num2 > max) {
            max = this.num2; // Update max if num2 is greater
        }

        if (this.num3 > max) {
            max = this.num3; // Update max if num3 is greater
        }

        return max;
    }

    public static void main(String[] args) {
        MaxOfThreeNumbers numbers = new MaxOfThreeNumbers(10, 30, 20);
        System.out.println("Maximum of three numbers is: " + numbers.findMax() );
    }
}

Q.716...Write a Java program to take input of 10 digit mobile number and verify that
it must have length 10 and starting from 9,8 or 7 using this keyword.
--------------------------------------------------------------------------------
import java.util.Scanner;
class MobileNumberValidator
{
    String mobileNumber;
    MobileNumberValidator(String mobileNumber)
    {
        this.mobileNumber = mobileNumber;
    }

    boolean isValidMobileNumber()
    {
        if (this.mobileNumber.length() == 10 && (this.mobileNumber.startsWith("9") ||
        this.mobileNumber.startsWith("8") || this.mobileNumber.startsWith("7"))) {
            return true;
        } else {
            return false;
        }
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a 10-digit mobile number: ");
        String inputNumber = sc.nextLine();

        MobileNumberValidator validator = new MobileNumberValidator(inputNumber);

        if (validator.isValidMobileNumber()) {
            System.out.println("Valid mobile number!");
        } else {
            System.out.println("Invalid mobile number. Please make sure it is 10
            digits and starts with 9, 8, or 7.");
        }
    }
}

Q.715...Write a Java program to swap two numbers using this keyword.
--------------------------------------------------------------------------------
class SwapNumbers {
```

```java
     int num1;
     int num2;

    SwapNumbers(int num1, int num2)
    {
        this.num1 = num1;
        this.num2 = num2;
    }

    void swap()
    {
        int temp = this.num1;
        this.num1 = this.num2;
        this.num2 = temp;
    }

    void displayNumbers()
    {
        System.out.println("After swapping:");
        System.out.println("Number 1: " + this.num1);
        System.out.println("Number 2: " + this.num2);
    }

    public static void main(String[] args)
    {
        SwapNumbers numbers = new SwapNumbers(5, 10);

        System.out.println("Before swapping:");
        System.out.println("Number 1: " + numbers.num1);
        System.out.println("Number 2: " + numbers.num2);

        numbers.swap(); // Swap the numbers using the swap method

        numbers.displayNumbers(); // Display the swapped numbers
    }
}
```

Q.714...Write a Java program to find percentage of student using this keyword.

```java
import java.util.Scanner;

class StudentPercentageCalculator {
    String studentName;
    int marksObtained;
    int totalMarks;

    StudentPercentageCalculator(String studentName, int marksObtained, int
    totalMarks)
    {
        this.studentName = studentName;
        this.marksObtained = marksObtained;
        this.totalMarks = totalMarks;
    }

    double calculatePercentage()
    {
        return ((double) this.marksObtained / this.totalMarks) * 100;
    }

    void displayResult()
    {
        System.out.println("Student Name: " + this.studentName);
        System.out.println("Marks Obtained: " + this.marksObtained);
        System.out.println("Total Marks: " + this.totalMarks);
        System.out.println("Percentage: " + this.calculatePercentage() + "%");
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter student name: ");
        String name = scanner.nextLine();
```

```
144             System.out.print("Enter marks obtained: ");
145             int marks = scanner.nextInt();
146
147             System.out.print("Enter total marks: ");
148             int totalMarks = scanner.nextInt();
149
150             StudentPercentageCalculator student = new StudentPercentageCalculator(name,
                marks, totalMarks);
151
152             // Display the result
153             student.displayResult();
154         }
155     }
156
157     Q.712...Write a Java Program to calculate the addition and subtraction of two values
158     using this keyword.
159     ------------------------------------------------------------------------------
160     import java.util.Scanner;
161
162     class AddSubCalculator {
163         double value1;
164         double value2;
165
166         AddSubCalculator(double value1, double value2)
167         {
168             this.value1 = value1;
169             this.value2 = value2;
170         }
171
172         double add() {
173             return this.value1 + this.value2;
174         }
175
176         double subtract()
177         {
178             return this.value1 - this.value2;
179         }
180
181         public static void main(String[] args) {
182             Scanner scanner = new Scanner(System.in);
183
184             System.out.print("Enter the first value: ");
185             double val1 = scanner.nextDouble();
186
187             System.out.print("Enter the second value: ");
188             double val2 = scanner.nextDouble();
189
190             AddSubCalculator calculator = new AddSubCalculator(val1, val2);
191
192             // Calculate and display addition
193             System.out.println("Addition: " + calculator.add());
194
195             // Calculate and display subtraction
196             System.out.println("Subtraction: " + calculator.subtract());
197         }
198     }
199
200     Q.711...Write a Java Program to display the details of student(rollno,name and marks)
201     using this keyword.
202     ------------------------------------------------------------------------------
203     import java.util.Scanner;
204
205     class StudentDetails {
206         int rollNo;
207         String name;
208         double marks;
209
210         StudentDetails(int rollNo, String name, double marks)
211         {
212             this.rollNo = rollNo;
213             this.name = name;
214             this.marks = marks;
215         }
```

```java
    void displayDetails()
    {
        System.out.println("Student Details:");
        System.out.println("Roll Number: " + this.rollNo);
        System.out.println("Name: " + this.name);
        System.out.println("Marks: " + this.marks);
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter Roll Number: ");
        int rollNo = scanner.nextInt();

        scanner.nextLine(); // Consume the newline character left by nextInt()

        System.out.print("Enter Name: ");
        String name = scanner.nextLine();

        System.out.print("Enter Marks: ");
        double marks = scanner.nextDouble();

        StudentDetails student = new StudentDetails(rollNo, name, marks);

        // Display student details
        student.displayDetails();
    }
}
```