Level 1 Practice Programs

1. Write a program to input the Principal, Rate, and Time values and calculate Simple Interest.

**Hint =>**

1. Simple Interest = Principal \* Rate \* Time / 100
2. Take user input for principal, rate, time
3. Write a method to calculate the simple interest given principle, rate and time as parameters
4. Output “The Simple Interest is \_\_\_ for Principal \_\_\_, Rate of Interest \_\_\_ and Time \_\_\_”
5. Create a program to find the maximum number of handshakes among N number of students.

**Hint =>**

1. Get integer input for number of students
2. Use the combination = (n \* (n - 1)) / 2 formula to calculate the maximum number of possible handshakes.
3. Write a method to use the combination formulae to calculate the number of handshakes
4. Create a program to find the maximum number of handshakes among N number of students.

**Hint =>**

1. Get integer input for numberOfStudents variable.
2. Use the combination = (n \* (n - 1)) / 2 formula to calculate the maximum number of possible handshakes.
3. Display the number of possible handshakes.
4. An athlete runs in a triangular park with sides provided as input by the user in meters. If the athlete wants to complete a 5 km run, then how many rounds must the athlete complete

**Hint =>**

1. Take user input for 3 sides of a triangle
2. The perimeter of a triangle is the addition of all sides and rounds is distance/perimeter
3. Write a Method to compute the number of rounds user needs to do to complete 5km run
4. Write a program to check whether a number is positive, negative, or zero.

**Hint =>** Get integer input from the user. Write a Method to return -1 for negative number, 1 for positive number and 0 if number is zero

1. Write a program SpringSeason that takes two int values month and day from the command line and prints “Its a Spring Season” otherwise prints “Not a Spring Season”.

**Hint =>** Spring Season is from March 20 to June 20. Write a Method to check for Spring season and return a boolean true or false

1. Write a program to find the sum of n natural numbers using loop

**Hint =>** Get integer input from the user. Write a Method to find the sum of n natural numbers using loop

1. Write a program to find the smallest and the largest of the 3 numbers.

**Hint =>**

1. Take user input for 3 numbers
2. Write a single method to find the smallest and largest of the three numbers

***public static int[] findSmallestAndLargest(int number1, int number2, int number3)***

1. Write a program to take 2 numbers and print their quotient and reminder

**Hint =>**

1. Take user input as integer
2. Use division operator (/) for quotient and moduli operator (%) for reminder
3. Write Method to find the reminder and the quotient of a number

***public static int[] findRemainderAndQuotient(int number, int divisor)***

1. Create a program to divide N number of chocolates among M children. Print the number of chocolates each child will get and also the remaining chocolates

**Hint =>**

1. Get an integer value from user for the numberOfchocolates and numberOfChildren.
2. Write the method to find the number of chocolates each child gets and number of remaining chocolates

***public static int[] findRemainderAndQuotient(int number, int divisor)***

1. Write a program calculate the wind chill temperature given the temperature and wind speed

**Hint =>**

1. Write a method to calculate the wind chill temperature using the formula

windChill = 35.74 + 0.6215 \*temp + (0.4275\*temp - 35.75) \* windSpeed0.16

***public double calculateWindChill(double temperature, double windSpeed)***

1. Write a program to calculate various trigonometric functions using Math class given an angle in degrees

**Hint =>**

1. Method to calculate various trigonometric functions, Firstly convert to radians and then use Math function to find sine, cosine and tangent.

***public double[] calculateTrigonometricFunctions(double angle)***