

**Faculty of Computing**

IT1120 – Introduction to Programming Year 1 Semester 1 (2024)

Tutorial 05

1. Write a Java program to display the below sequences
   1. 2 3 4 5 6 7 8 9 10

public class DTute5Q1A

{

public static void main(String[] args)

{

// Declare and initialise the counter variable to 2

int count = 2;

while(count <= 10)

{

System.out.print(count);

count++; //Increment the counter by 1

}

}

}

* 1. 3 5 7 9

public class ETute5Q1B

{

public static void main(String[] args)

{

// Declare and initialise the counter variable to 3

int count = 3;

while(count <= 9)

{

System.out.print(count + " ");

count += 2; //Increment the counter by 2

}

}

}

* 1. 2 4 6 8 10 12 14 16 18

public class FTute5Q1C

{

public static void main(String[] args)

{

// Declare and initialise the counter variable to 2

int count = 2;

while(count <= 18)

{

System.out.print(count + " ");

count += 2; //Increment the counter by 2

}

}

}

1. Write a pseudocode to display the square of the numbers as shown below:
   1. - - -1
   2. - - -4
   3. - - -9
   4. - - -16
   5. - - -25

**MAIN**

**DEFINE i, square AS INTEGER**

**i = 1**

**WHILE i <= 5**

**square = i \* i**

**PRINT i, " - - - ", square**

**i = i + 1**

**ENDWHILE**

**ENDMAIN**

1. (a) Write a pseudocode to print the result of the following expression using a while loop.



1

1+ 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10

**MAIN**

**DEFINE i, sum AS INTEGER**

**i = 1**

**sum = 0**

**WHILE i <= 10**

**sum = sum + i**

**i = i + 1**

**ENDWHILE**

**PRINT "The sum is: ", sum**

**ENDMAIN**

* 1. Modify your pseudocode to enter the last number of the above series from the keyboard and print the result.

Ex: 1 + 2 + 3+ 4 + .. + ....+ n

Input n from the keyboard.

**MAIN**

**DEFINE i, sum, n AS INTEGER**

**PRINT “Enter the last number : “**

**INPUT n**

**i = 1**

**sum = 0**

**WHILE i <= n**

**sum = sum + i**

**i = i + 1**

**ENDWHILE**

**PRINT "The sum is: ", sum**

**ENDMAIN**

* 1. Modify the pseudocode again to display the average of the numbers entered.

**MAIN**

**DEFINE i, sum, n AS INTEGER**

**DEFINE average AS FLOAT**

**PRINT “Enter the last number : “**

**INPUT n**

**i = 1**

**sum = 0**

**WHILE i <= n**

**sum = sum + i**

**i = i + 1**

**ENDWHILE­**

**average = sum / n**

**PRINT "The sum is: ", sum**

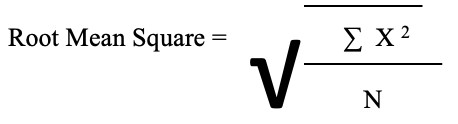
**PRINT "The average is: ", average**

**ENDMAIN**

1. Write a pseudocode to find the Root Mean Square of a series of numbers.

You are required to enter a set of positive numbers (integers) terminated by -99.

Use the following formula to find the Root Mean Square of the numbers entered.



∑*X*2 is the Summation of X2 for each individual X.

Eg : 

N is the number of numbers entered.

**MAIN**

**DEFINE number, sumOfSquares, n AS INTEGER**

**DEFINE rootMeanSquare AS FLOAT**

**sumOfSquares = 0**

**n = 0**

**PRINT "Enter positive integers, terminated by -99:"**

**INPUT number**

**WHILE number != -99**

**sumOfSquares = sumOfSquares + (number \* number)**

**n = n + 1**

**PRINT "Enter positive integers, terminated by -99:"**

**INPUT number**

**ENDWHILE**

**IF n > 0 THEN**

**rootMeanSquare = SQRT(sumOfSquares / n)**

**PRINT "The Root Mean Square (RMS) is: ", rootMeanSquare**

**ELSE**

**PRINT "No valid numbers were entered."**

**ENDIF**

**ENDMAIN**