**Application Programming Lab Excersise 1**

*Date: 09/08/23*

*Student Number: N01619463*

**Input and Output**



**Source Code**

"""

Application Name: Lab1.py

Developer: Alfred Varghese Jose

Date: 09/08/2023

An application program that reads five positive numeric values and determines their average and standard deviation and displays as output.

The Average is calculated as the sum of all numbers divided by five.

The Standard Deviation is calculated as square root of the average of the squared differences of each number from the total average.

"""

def lab1():

# accept user input

first\_number = float(input("Enter first number:\t"))

second\_number = float(input("Enter second number:\t"))

third\_number = float(input("Enter third number:\t"))

fourth\_number = float(input("Enter fourth number:\t"))

fifth\_number = float(input("Enter fifth number:\t"))

# calculate average of five numbers

average = (first\_number + second\_number + third\_number + fourth\_number + fifth\_number)/5

# calculate standard deviation of five numbers

standard\_deviation = (((first\_number - average)\*\*2 + (second\_number - average)\*\*2 + (third\_number - average)\*\*2 + (fourth\_number - average)\*\*2 + (fifth\_number - average)\*\*2)/5)\*\*0.5

# output formatting

author\_first\_name = "Alfred Varghese"

author\_last\_name = "Jose"

author\_student\_number = "N01619463"

author = "%120s\n%120s" % (author\_first\_name + " " + author\_last\_name, author\_student\_number)

header = "%16s%16s%16s%16s%16s%15s%25s" % ("First Number", "Second Number", "Third Number", "Fourth Number", "Fifth Number", "Average", "Standard Deviation")

data = "%16.2f%16.2f%16.2f%16.2f%16.2f%15.2f%25.2f" % (first\_number, second\_number, third\_number, fourth\_number, fifth\_number, average, standard\_deviation)

print("\n%s\n%s\n%s\n%s\n%s\n" % ("\*"\*120, author, "#\*"\*60, header, data))

if \_\_name\_\_=='\_\_main\_\_':

print(\_\_doc\_\_)

lab1()