UNIVERSITY OF CALOOCAN CITY
COMPUTER ENGINEERING DEPARTMENT

Data Structure and Algorithm

Laboratory Activity No. 3

# Translating Algorithm to Program


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# I. Objectives

Introduction

Data structure is a systematic way of organizing and accessing data, and an algorithm is a step-by-step procedure for performing some tasks in a finite amount of time. These concepts are central to computing, but to be able to classify some data structures and algorithms as “good,” we must have precise ways of analyzing them.

This laboratory activity aims to implement the principles and techniques in:

- Writing a well-structured procedure in programming
- Writing algorithm that best suits to solve computing problems
- Writing an efficient Python program from translated algorithms

# II. Methods

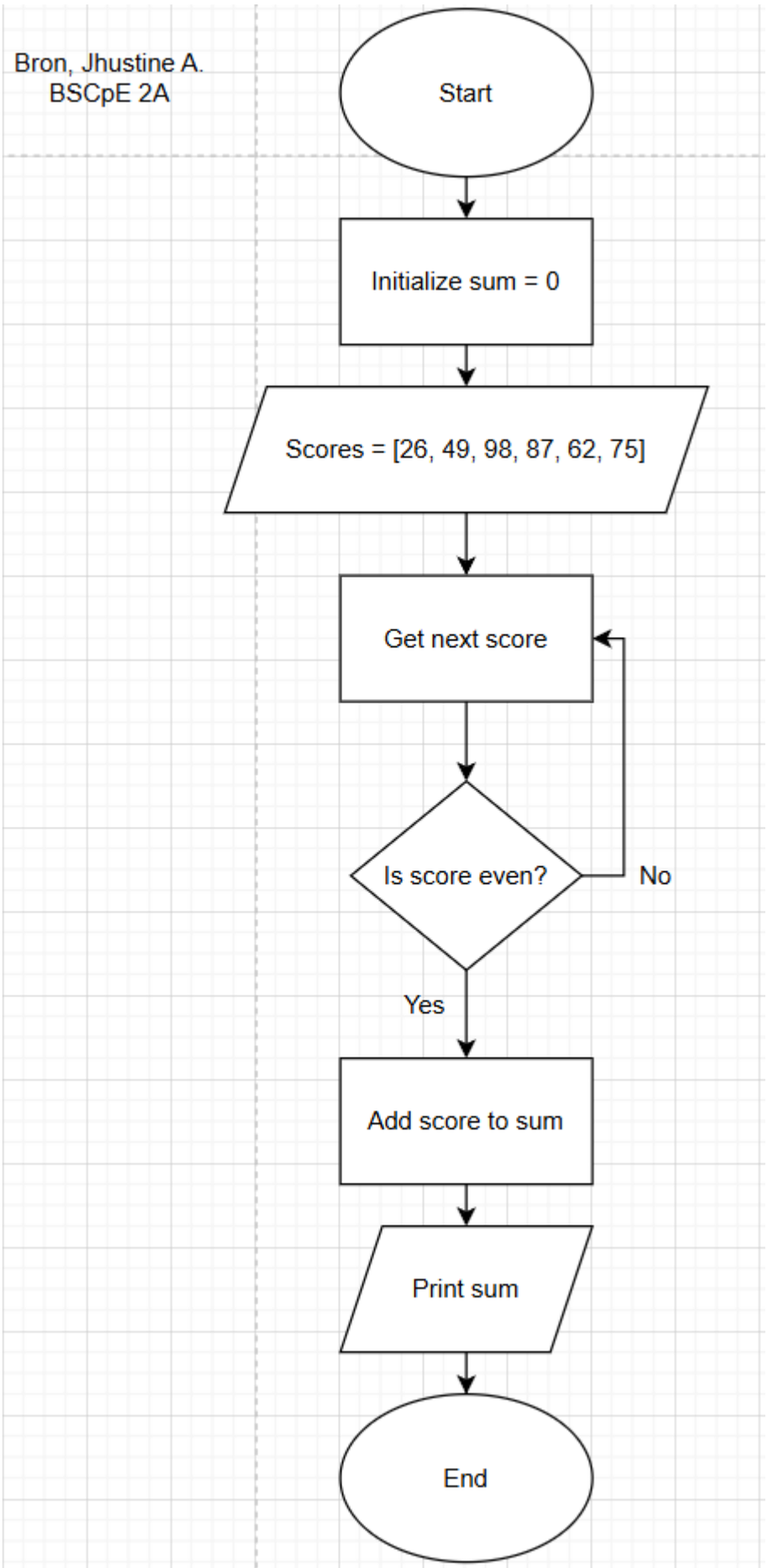
- Design an algorithm and the corresponding flowchart (Note: You may use LucidChart or any application) for adding the test scores as given below if the number is even: 26,49,98,87,62,75
- Translate the algorithm to a Python program (using Google Colab)
- Save your source codes to GitHub

# III. Results

**Algorithm:**

- START
- Initialize sum
- For each score in the list:
  a. If the score is even, add it to sum
- After all scores are checked, PRINT sum
- END

**Flowchart:**


Bron, Jhustine A.
BSCpE 2A
Start
Initialize sum = 0
Scores = [26, 49, 98, 87, 62, 75]
Get next score
Is score even?
No
Yes
Add score to sum
Print sum
End

**Source Code:**

https://colab.research.google.com/drive/1_urA0Wh7Zw1YNNWyvCg4Dnod7z42oTrB#scrollTo=_NCtGXzvUsMy&line=8&uniqifier=1

# IV. Conclusion

This activity helped me better understand how algorithms, flowcharts, and code all connect. By starting with a simple idea of adding only the even numbers from a list, I was able to break it down into clear steps, draw it out in a flowchart, and then write the Python code to make it work. Seeing how each part plays a role made the whole process feel more practical and easier to follow. It was a good reminder that even simple tasks can teach a lot when you go through them step by step.