

# AI ASSISTED CODING LAB

## ASSIGNMENT 2.4

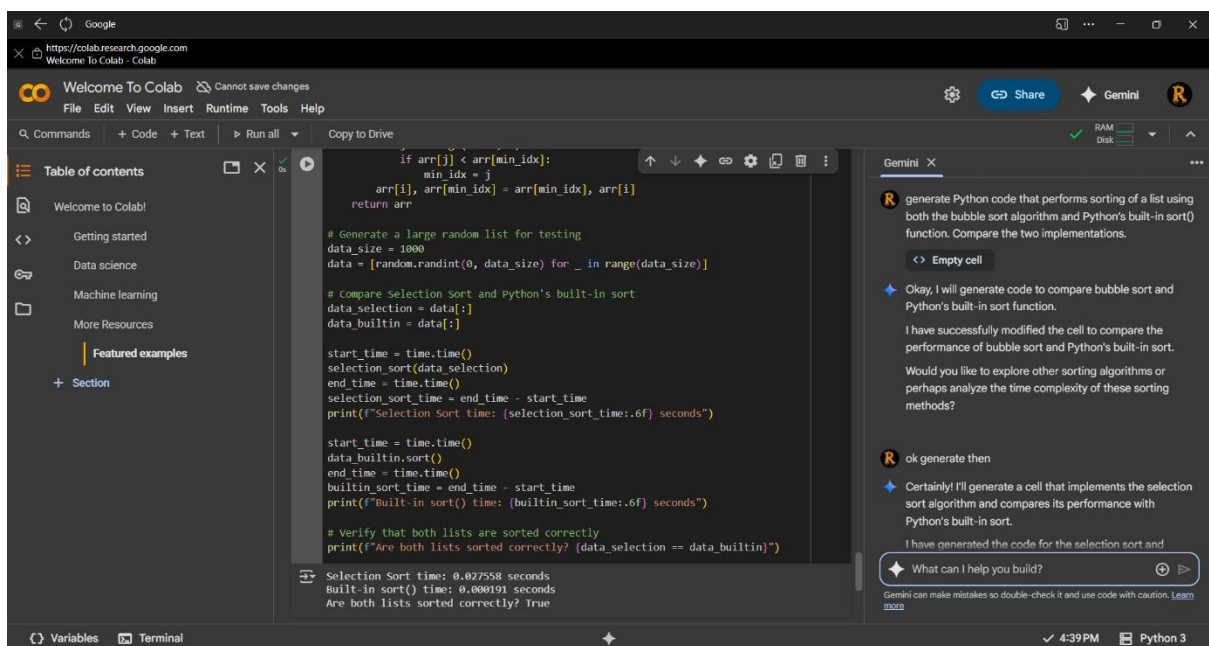
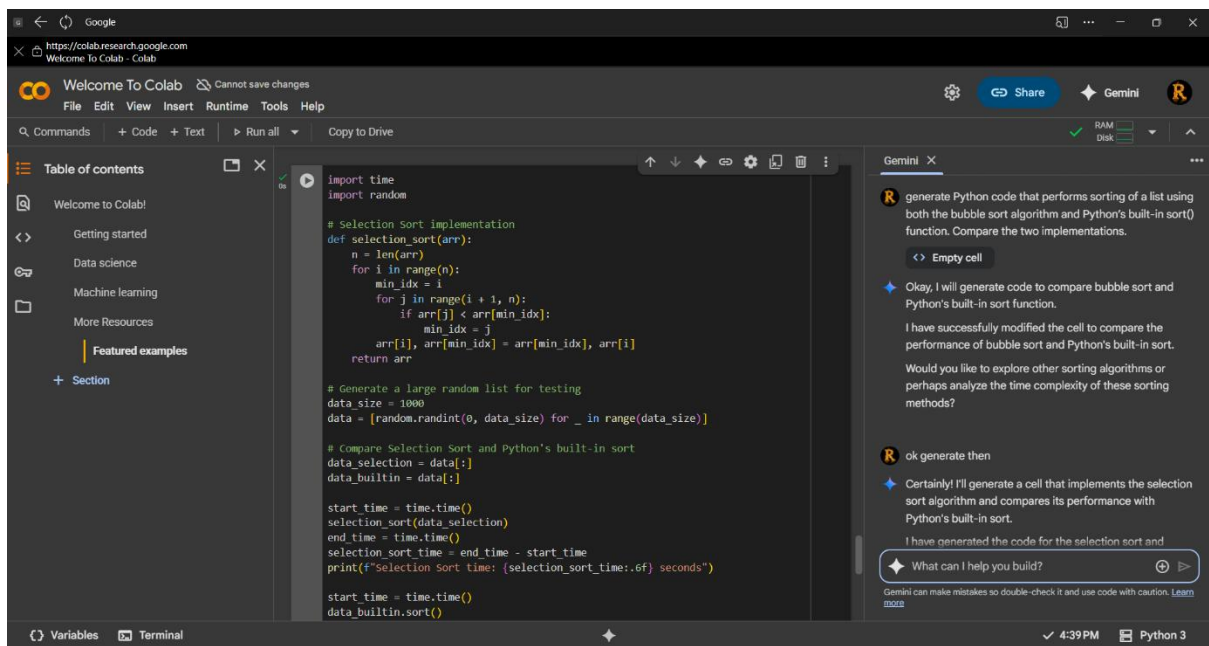
NAME: Guangsinlung Phaomei

ENROLLMENT NO :2503A51L20

BATCH NO: 19

**TASK DESCRIPTION 1:** Open Google Colab and use Google Gemini to generate Python code that performs sorting of a list using both the bubble sort algorithm and Python's built-in sort () function. Compare the two implementations.

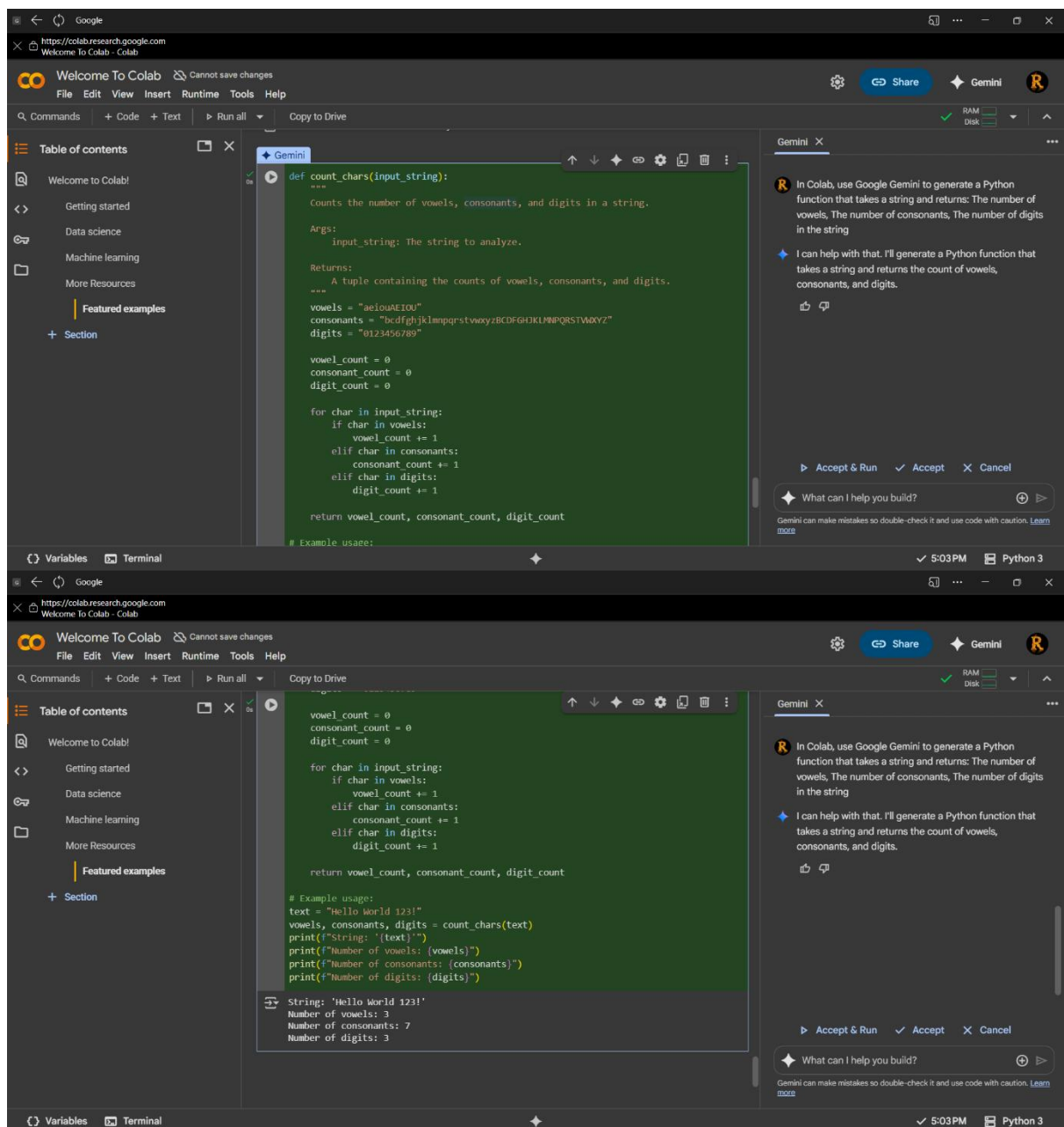
**PROMPT 1:** Generate Python code that demonstrates sorting a list using two methods: (1) implementing the bubble sort algorithm manually, and (2) using Python's built-in sort () function. The code should generate a random list of integers, apply both sorting methods, and print the sorted results for comparison. Also, compare their performance (execution time) and explain the differences briefly.



**TASK DESCRIPTION 2:** In Colab, use Google Gemini to generate a Python function that takes a string and returns:

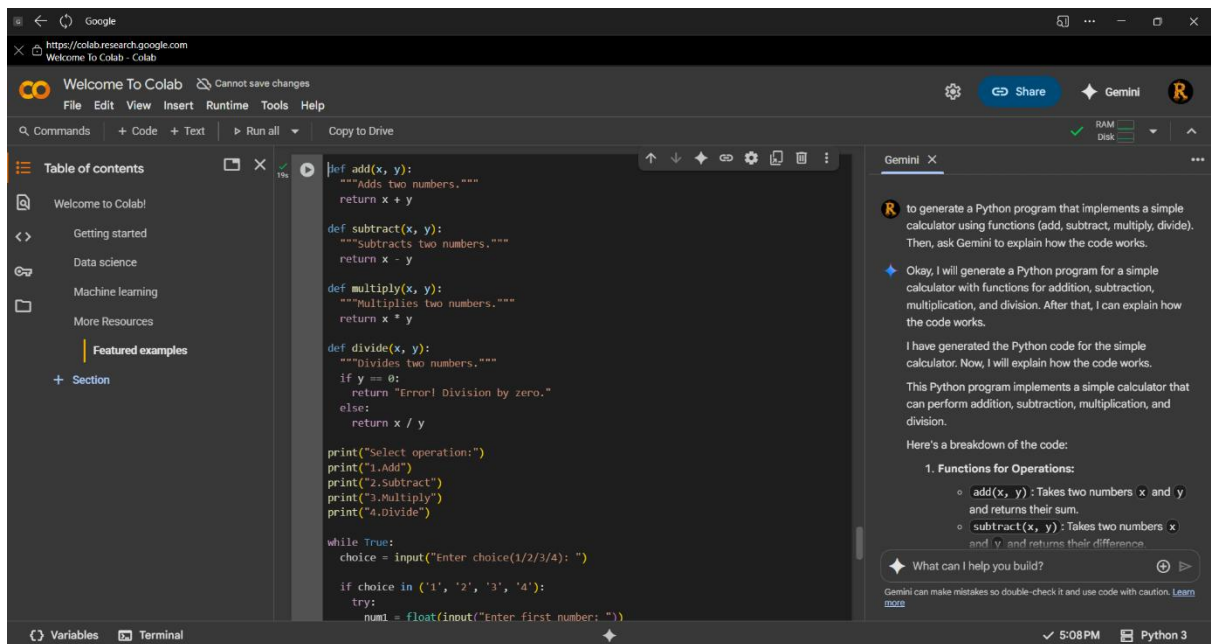
- The number of vowels,
- The number of consonants,
- The number of digits in the string

**PROMPT 1:** Generate a Python function that takes a string as input and returns three values: (1) the number of vowels in the string, (2) the number of consonants, and (3) the number of digits. The function should handle both uppercase and lowercase letters. Demonstrate the function with a few example strings.



**TASK DESCRIPTION 4:** Ask Google Gemini to generate a Python program that implements a simple calculator using functions (add, subtract, multiply, divide). Then, ask Gemini to explain how the code works.

**PROMPT 1:** Generate a Python program that implements a simple calculator using functions for addition, subtraction, multiplication, and division. The program should allow the user to enter two numbers and select an operation. After writing the code, explain step by step how the program works.



Google

https://colab.research.google.com  
Welcome To Colab - Colab

Welcome To Colab  
Cannot save changes

File Edit View Insert Runtime Tools Help

Commands + Code + Text Run all Copy to Drive

Table of contents

Welcome to Colab!

Getting started

Data science

Machine learning

More Resources

Featured examples

+ Section

```
if choice in ('1', '2', '3', '4'):
    try:
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))
    except ValueError:
        print("Invalid input. Please enter a number.")
        continue

    if choice == '1':
        print(num1, "+", num2, "=", add(num1, num2))

    elif choice == '2':
        print(num1, "-", num2, "=", subtract(num1, num2))

    elif choice == '3':
        print(num1, "*", num2, "=", multiply(num1, num2))

    elif choice == '4':
        print(num1, "/", num2, "=", divide(num1, num2))
    break
else:
    print("Invalid Input")
```

Select operation:  
1.Add  
2.Subtract  
3.Multiply  
4.Divide  
Enter choice(1/2/3/4): 1  
Enter first number: 23  
Enter second number: 24  
23.0 + 24.0 = 47.0

Gemini

to generate a Python program that implements a simple calculator using functions (add, subtract, multiply, divide). Then, ask Gemini to explain how the code works.

Okay, I will generate a Python program for a simple calculator with functions for addition, subtraction, multiplication, and division. After that, I can explain how the code works.

I have generated the Python code for the simple calculator. Now, I will explain how the code works.

This Python program implements a simple calculator that can perform addition, subtraction, multiplication, and division.

Here's a breakdown of the code:

1. Functions for Operations:

- add(x, y) : Takes two numbers x and y and returns their sum.
- subtract(x, y) : Takes two numbers x and y and returns their difference.

What can I help you build?

Gemini can make mistakes so double-check it and use code with caution. [Learn more](#)

Variables Terminal

5:08 PM Python 3