AI ASSISTED CODING LAB 4.2

TOPIC: Advanced Prompt Engineering – Zero-shot, One-shot, and Few-shot Techniques.

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BATCH: 01

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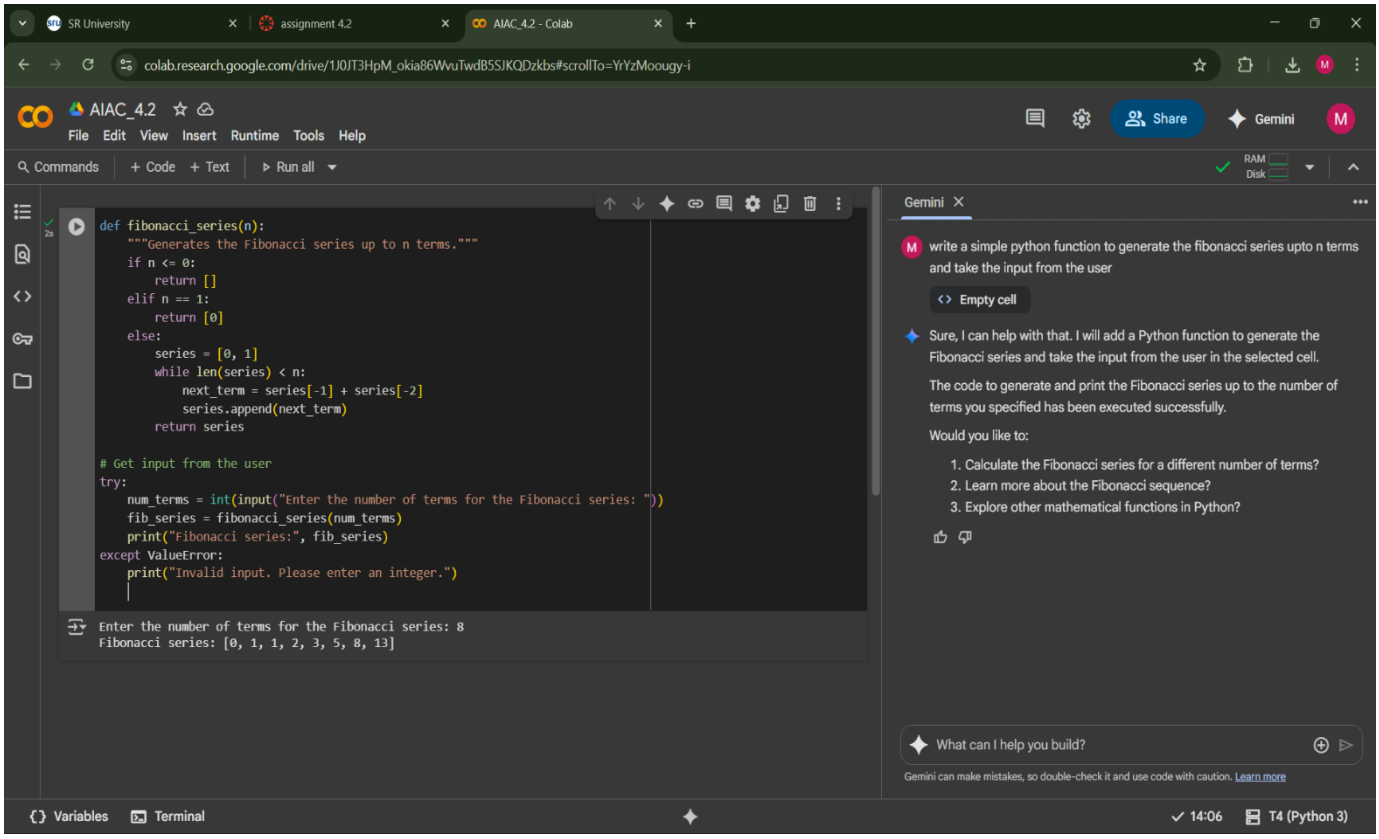
TASK 1: Write a Python function to generate the Fibonacci sequence up to n terms

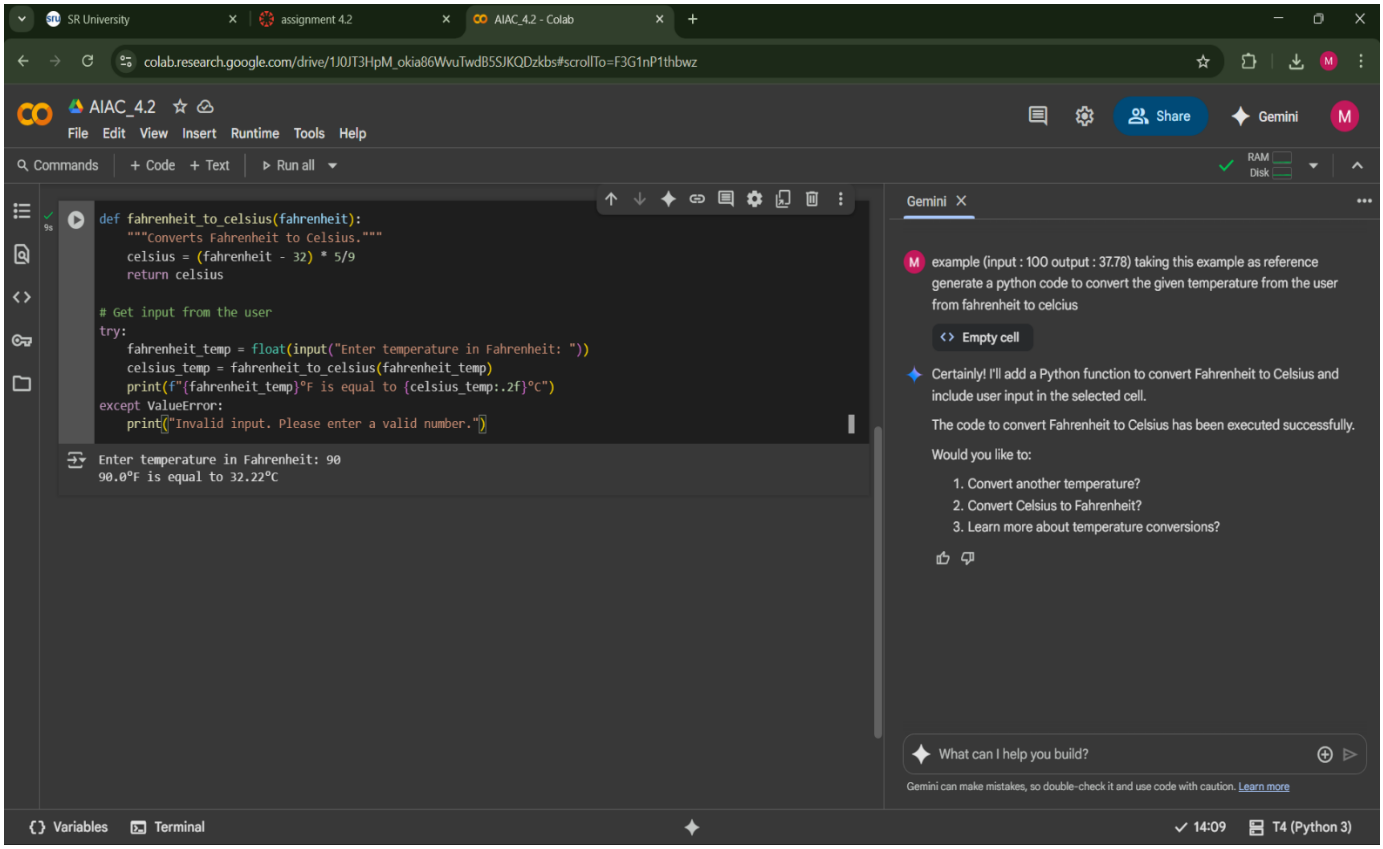
USED PROMPT: Write a simple python function to generate the Fibonacci series up to n terms and take the input from the use



EXPLANATION: This is a zero-prompt technique without giving any detailed information to AI and letting it print the code based on the prompt only

TASK 2: Provide one example: Input: 100, Output: 37.78 to help AI generate a function that converts Fahrenheit to Celsius

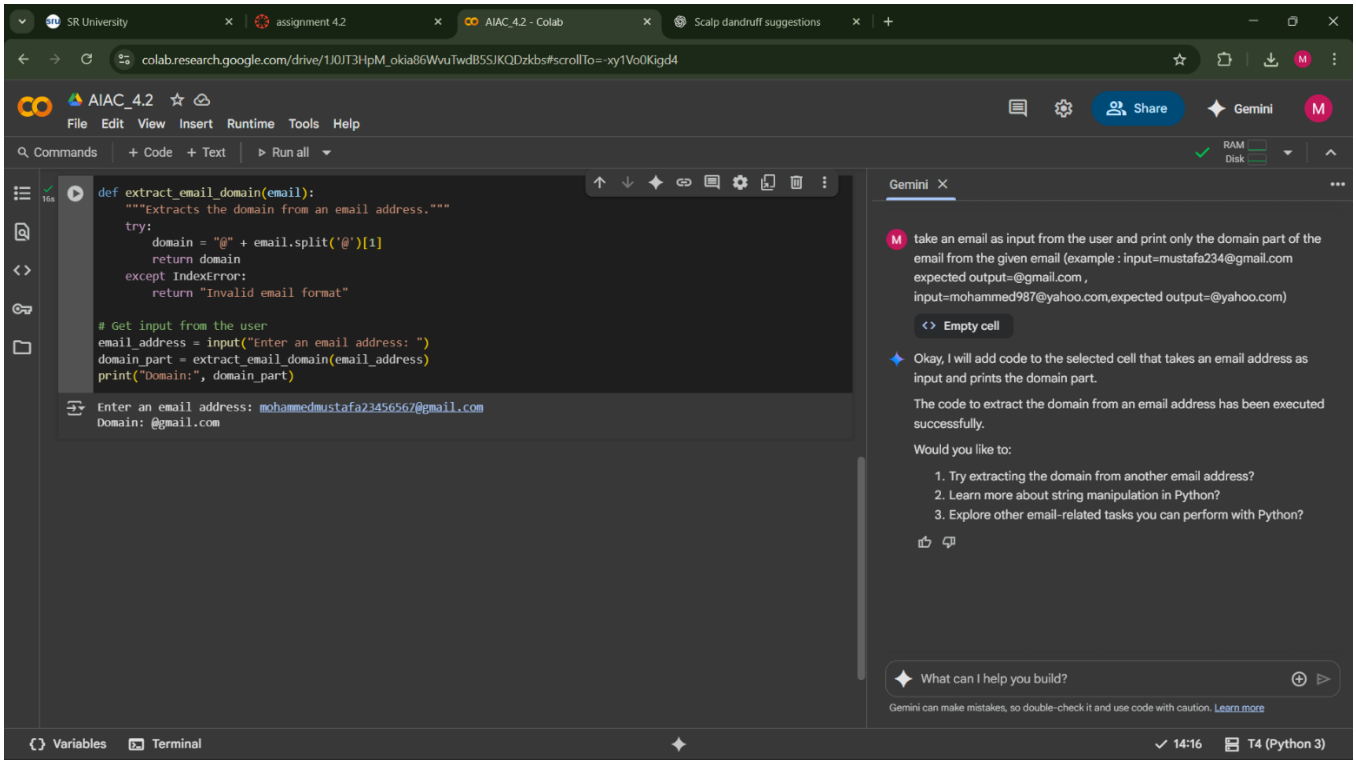
USED PROMPT: example (input: 100 , output : 37.78) taking this example as reference generate a python code to convert the given temperature from the user from Fahrenheit to Celsius



EXPLANATION: This is a one shot-prompt technique. here we give the AI one example to explain it in what format we want the code to be printed

TASK 3: Give 2–3 examples to create a function that extracts the domain name from an email address.

USED PROMPT: Take an email as input from the user and print only the domain part of the email from the given email (example : input=mustafa234@gmail.com , expected output=@gmail.com , input=mohammed987@yahoo.com , expected output=@yahoo.com)



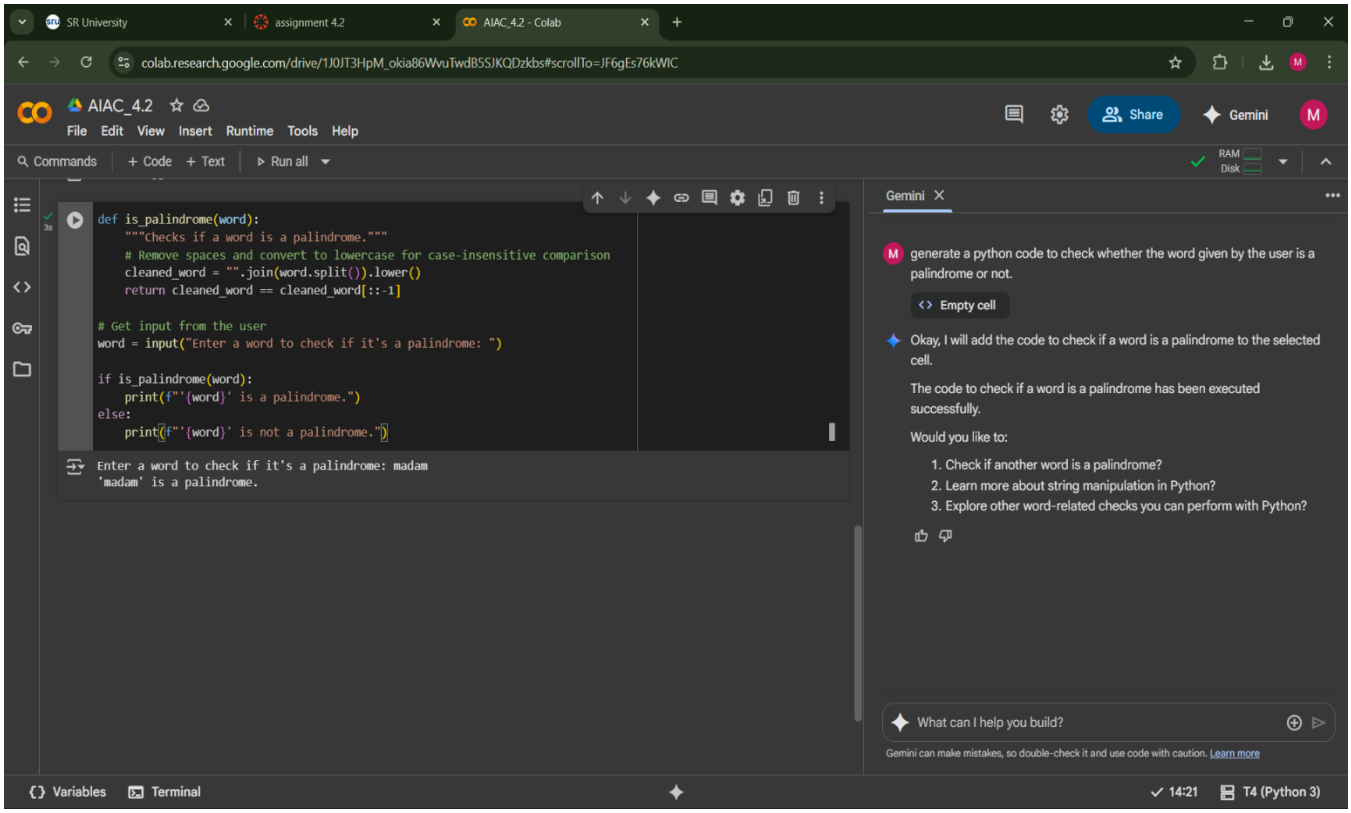
EXPLANATION: this is a few-shot technique.

Here we give AI 2-3 examples of how we expect the code to be and give various conditions to be implemented in the code.

TASK 4: Compare zero-shot vs few-shot prompting for generating a function that checks whether a word is a palindrome, ignoring punctuation and case.

USED PROMPT: **ZERO-SHOT TECHNIQUE:**

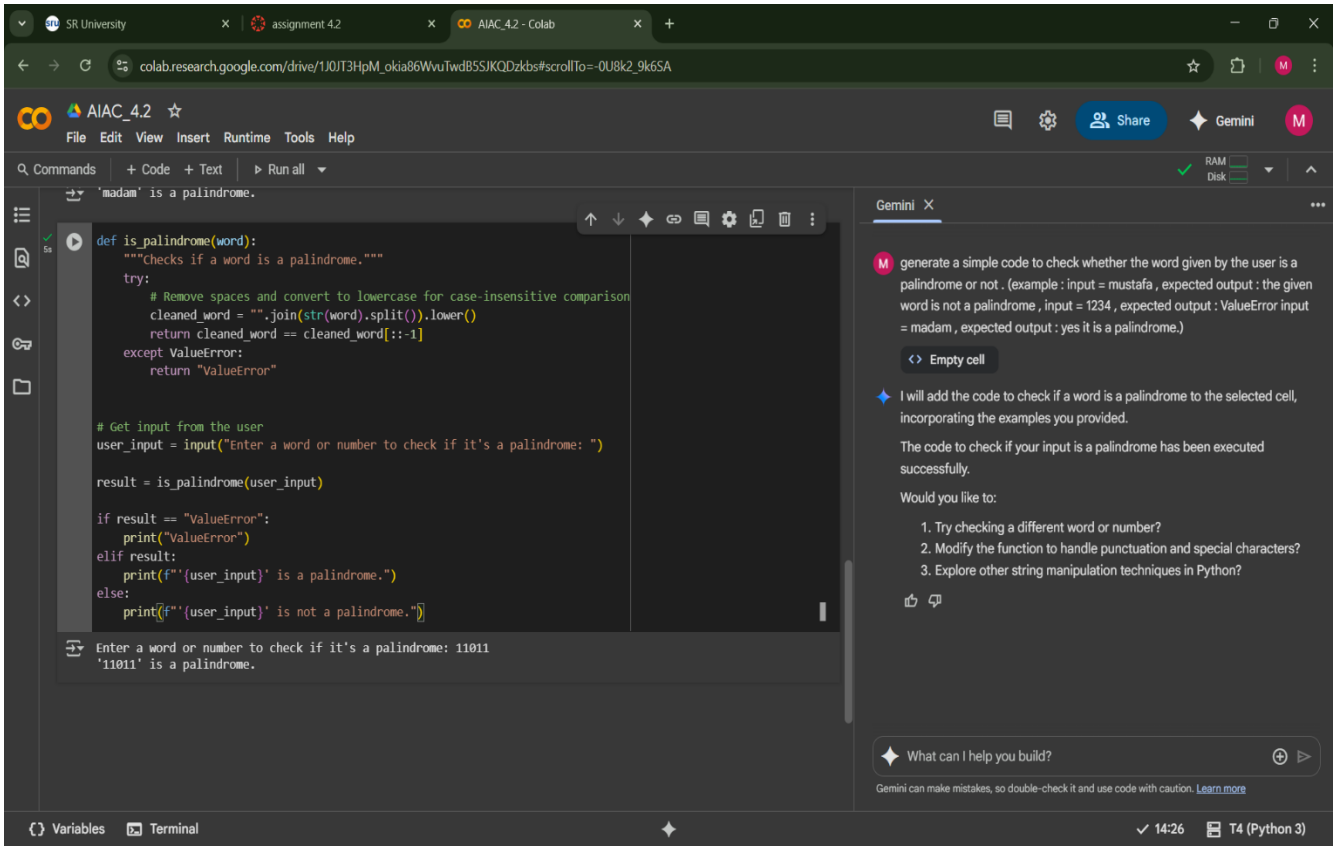
GENERATE A PYTHON CODE TO CHECK WHETHER THE WORD GIVEN BY THE USER IS A PALIMDROME OR NOT



EXPLANATION: THIS IS JUST A ZERO-SHOT TECHNIQUE, ASKING AI TO GENERATE A CODE TO CHECK WHETHER A WORD IS A PALINDROME OR NOT WITHOUT ANY CONDITIONS USED IN THE PROMPT.

FEW-SHOT TECHNIQUE:

generate a simple code to check whether the word given by the user is a palindrome or not . (example : input = mustafa , expected output : the given word is not a palindrome , input = 1234 , expected output : ValueError input = madam , expected output : yes itis a palindrome)



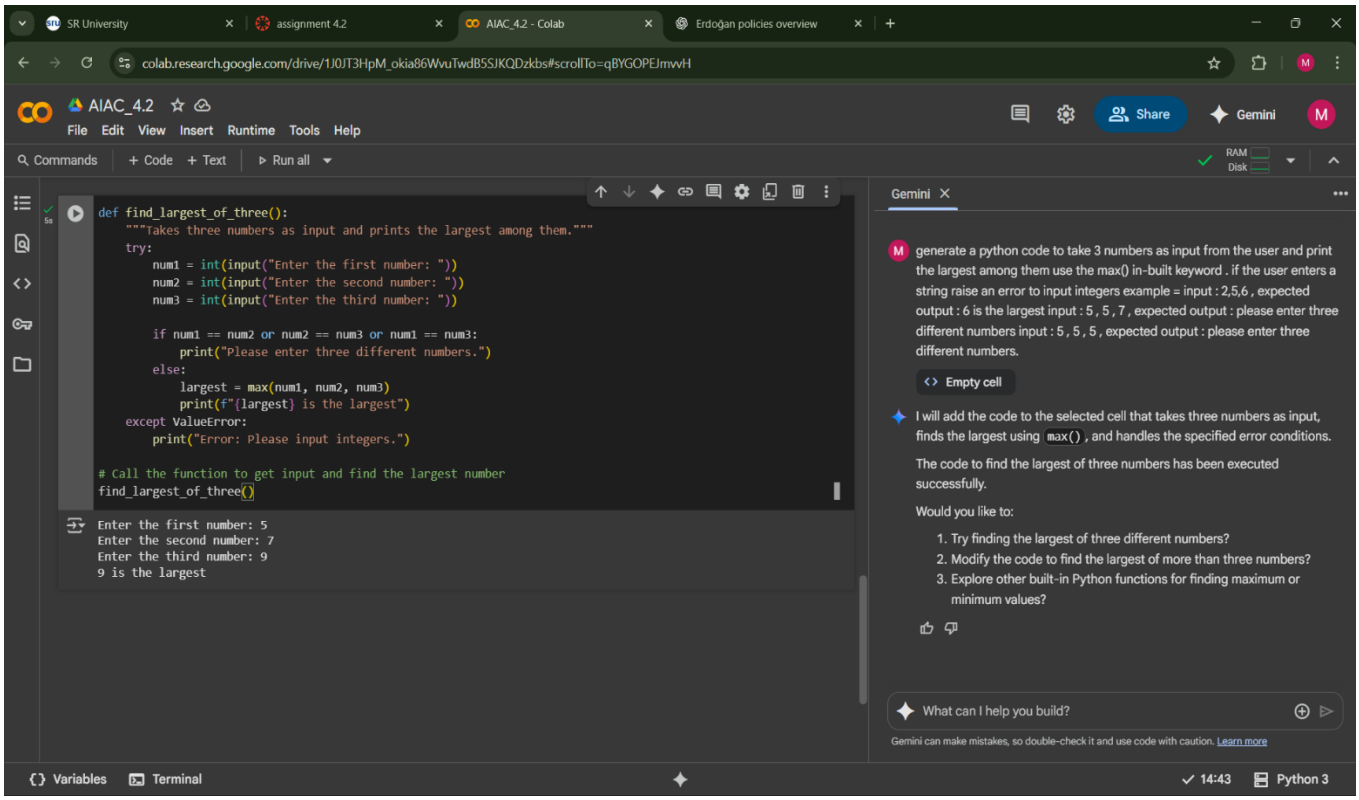
EXPLANATION: COMPARED TO THE ZERO-SHOT TECHNIQUE, THE FEW SHOT TECHNIQUE CHECKS

FOR MULTIPLE CONDITIONS/INPUTS. THE USER CHECKS ALL THE CONDITIONS HE WANTS TO CHECK IN THE PROMPT AND ASKS AI TO GENERATE THE CODE FOLLOWING THE CONDITIONS INCLUDED IN THE PROMPT.

TASK 5: Use few-shot prompting with 3 sample inputs to generate a function that determines
the maximum of three numbers without using the built-in max() function.

USED PROMPT: generate a python code. take 3 numbers input from user and print the largest among them use the max() in-built keyword . if the user enters a string raise an

error to input integers example = input : 2,5,6 , expected output : 6 is the largest input : 5 , 5 , 7 , expected output : please enter three different numbers input : 5 , 5 , 5 , expected output : please enter three different numbers



EXPLANATION: It is a few-shot technique used to give multiple shots/conditions in the prompt. Here I have used 2 different conditions the input shouldn't be a string and no 2 or 3 numbers should be same