Assignment-2.1

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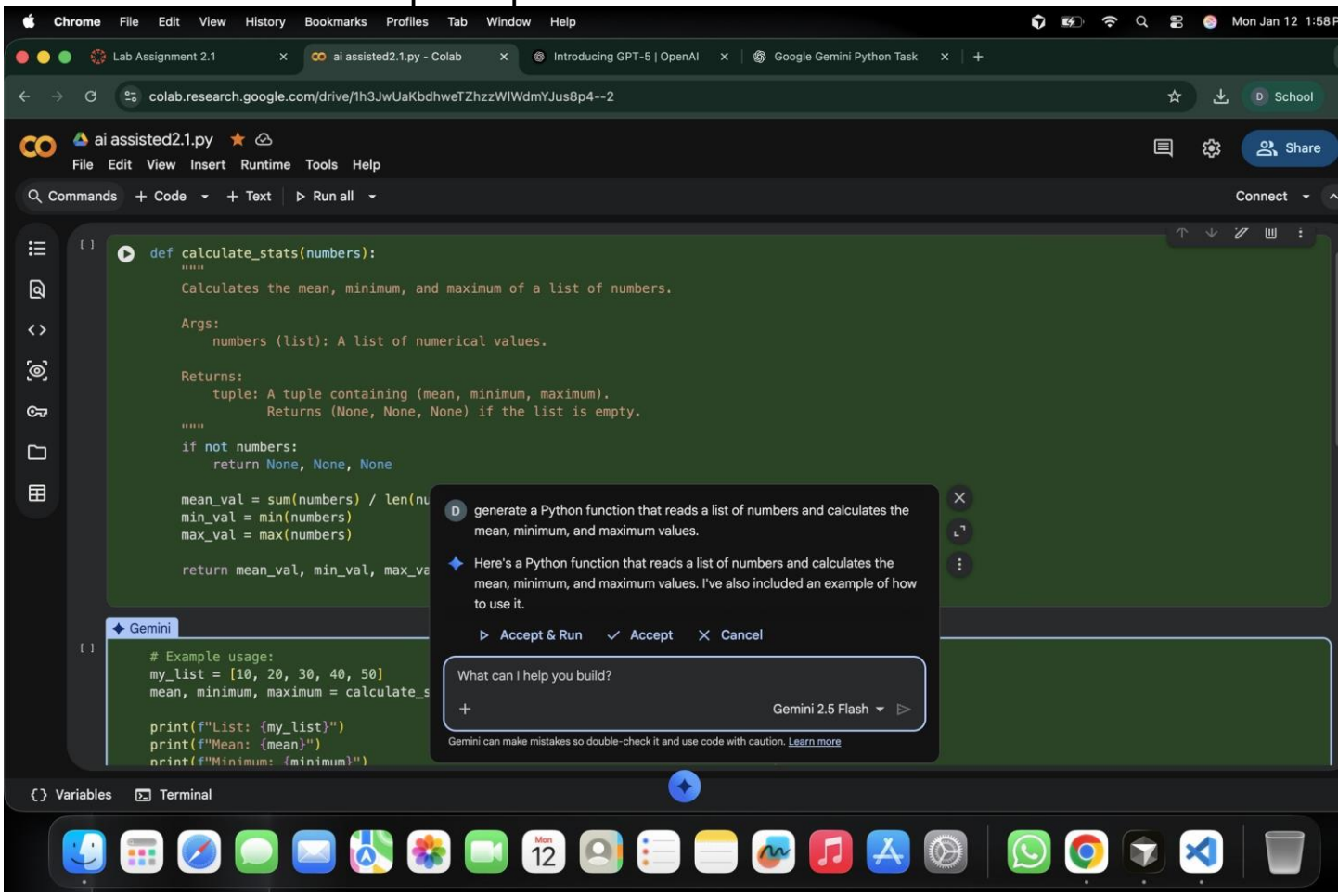
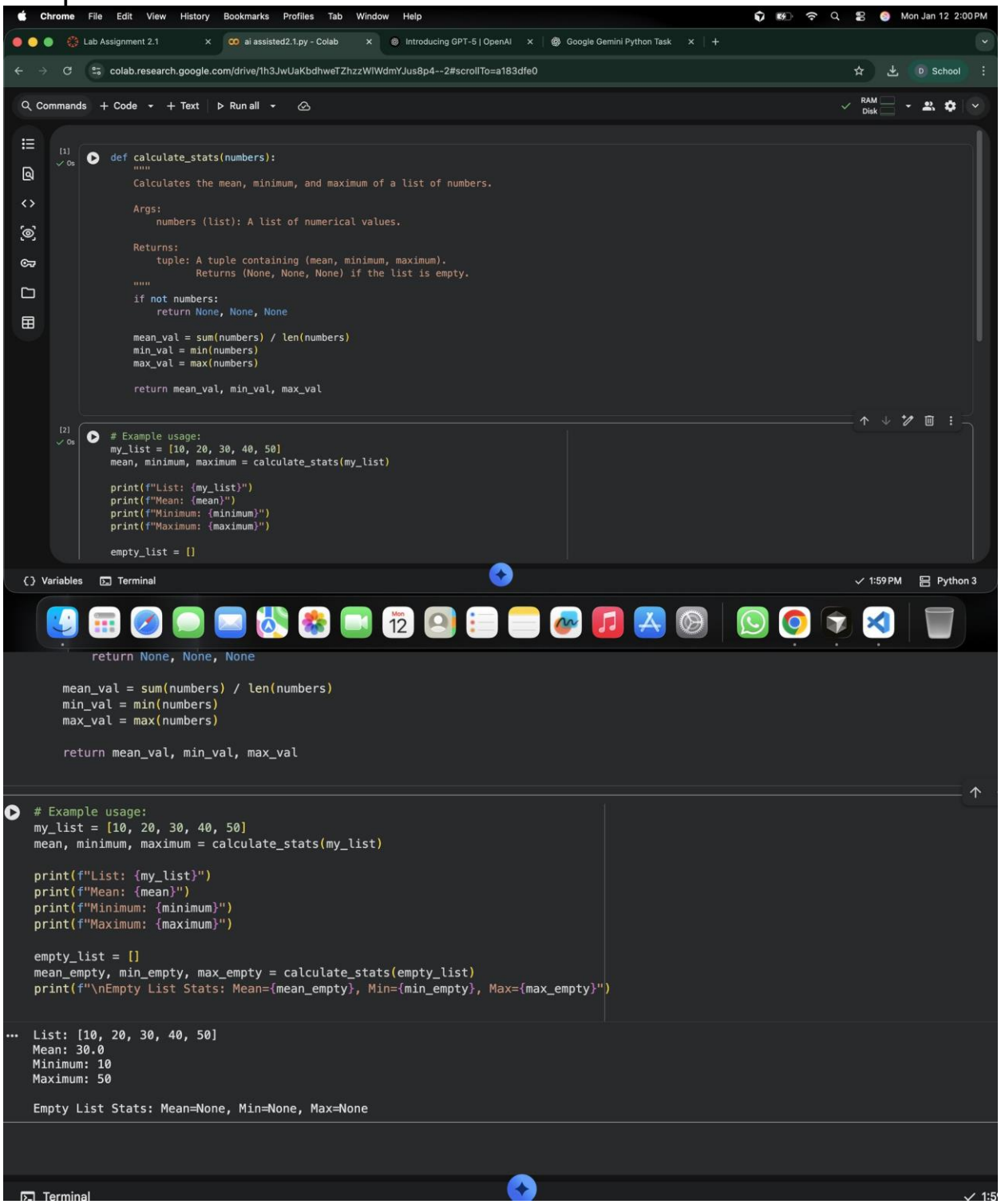
Batch-28

Task 1: Statistical Summary for Survey Data
Scenario:
You are a data analyst intern working with survey responses stored as
numerical lists.
❖ Task:
Use Google Gemini in Colab to generate a Python function that reads a list
of numbers and calculates the mean, minimum, and maximum values.

Output:
Screenshot of Gemini prompt and result



Correct Python function
Output shown in Colab



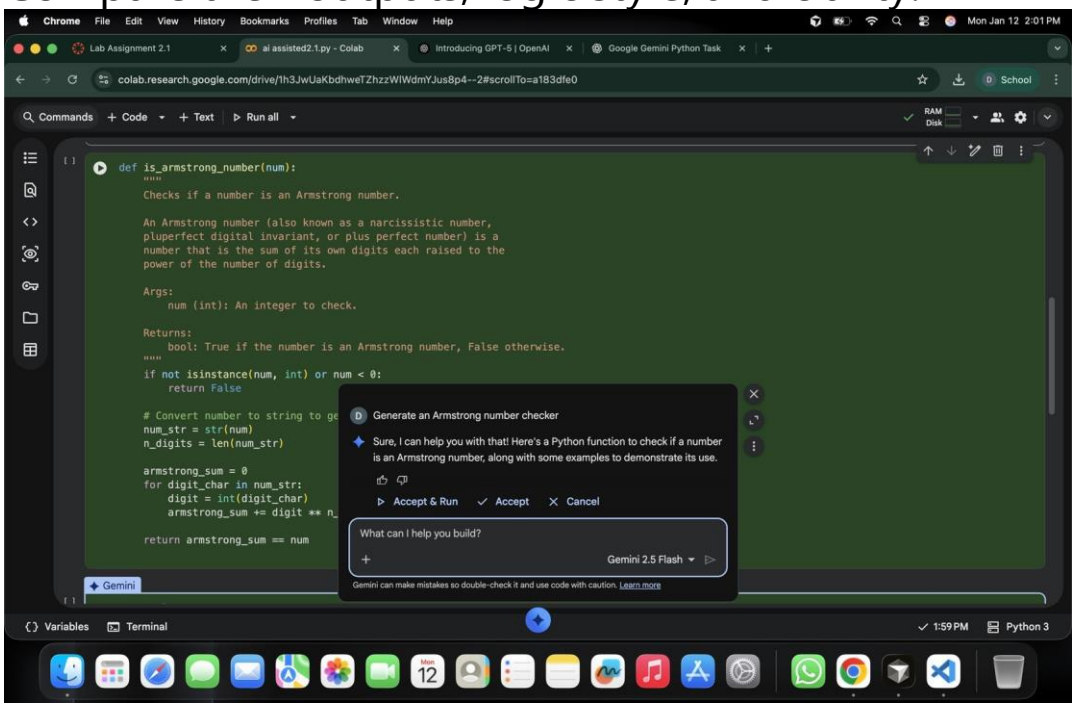
Task 2: Armstrong Number – AI Comparison

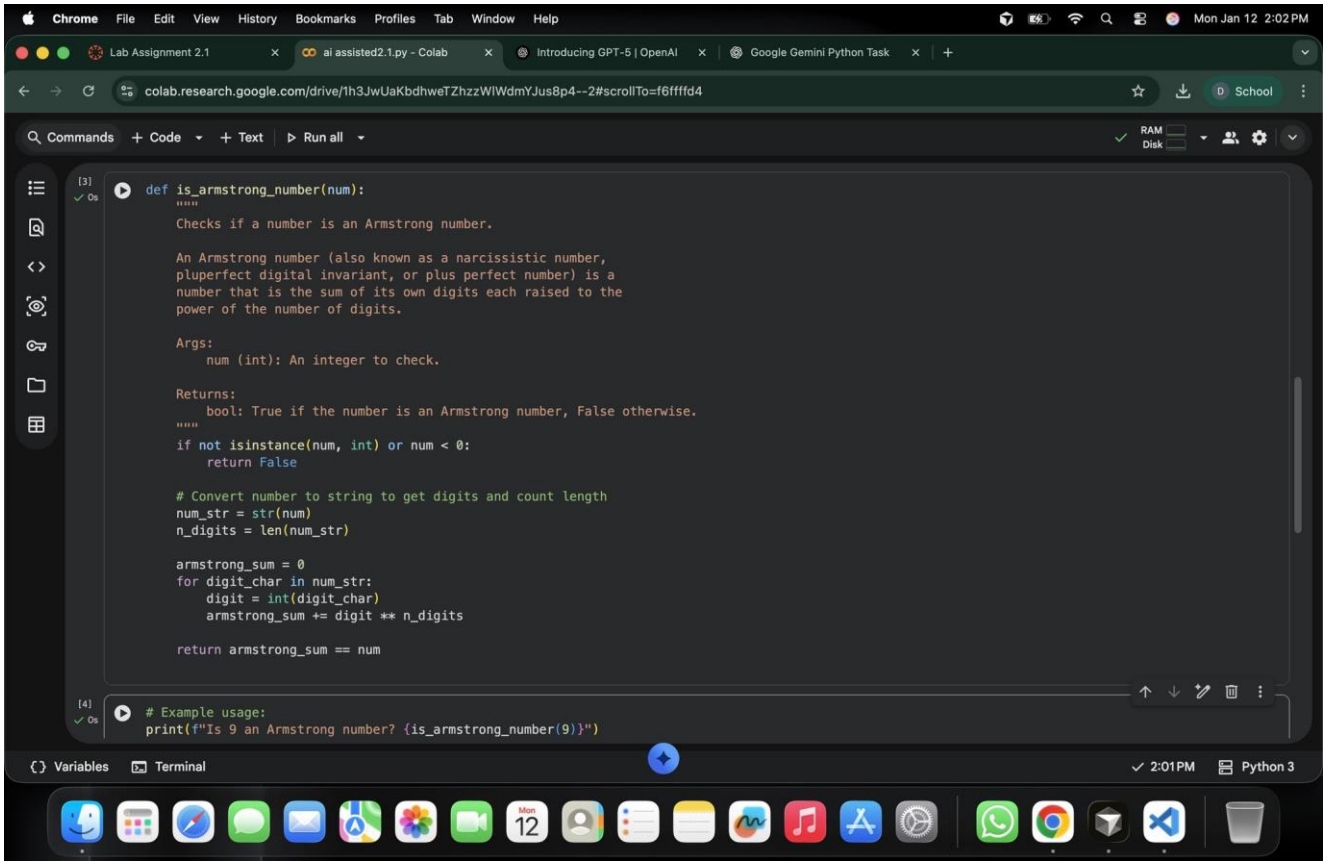
❖ Scenario:

You are evaluating AI tools for numeric validation logic.

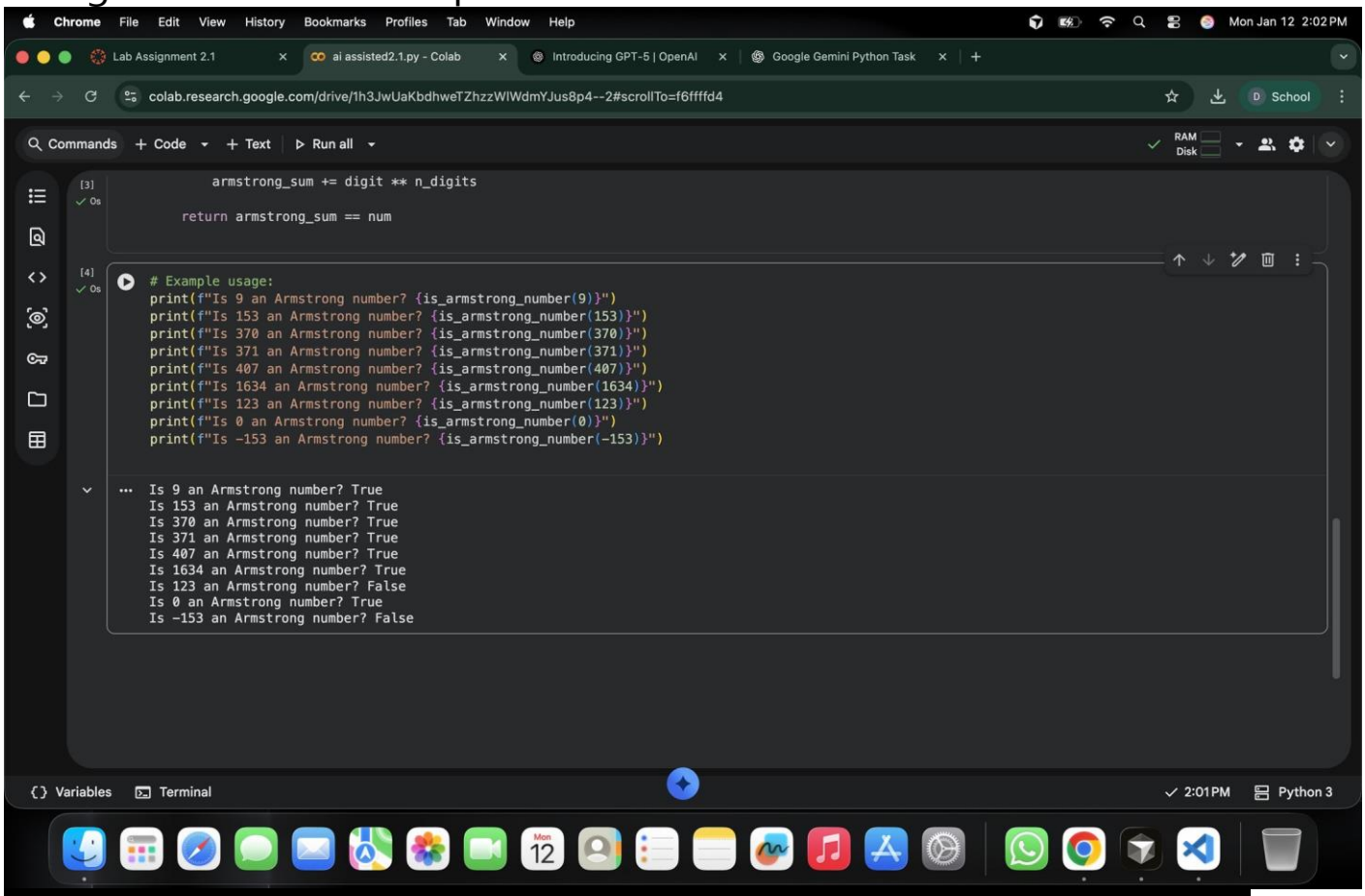
❖ Task:

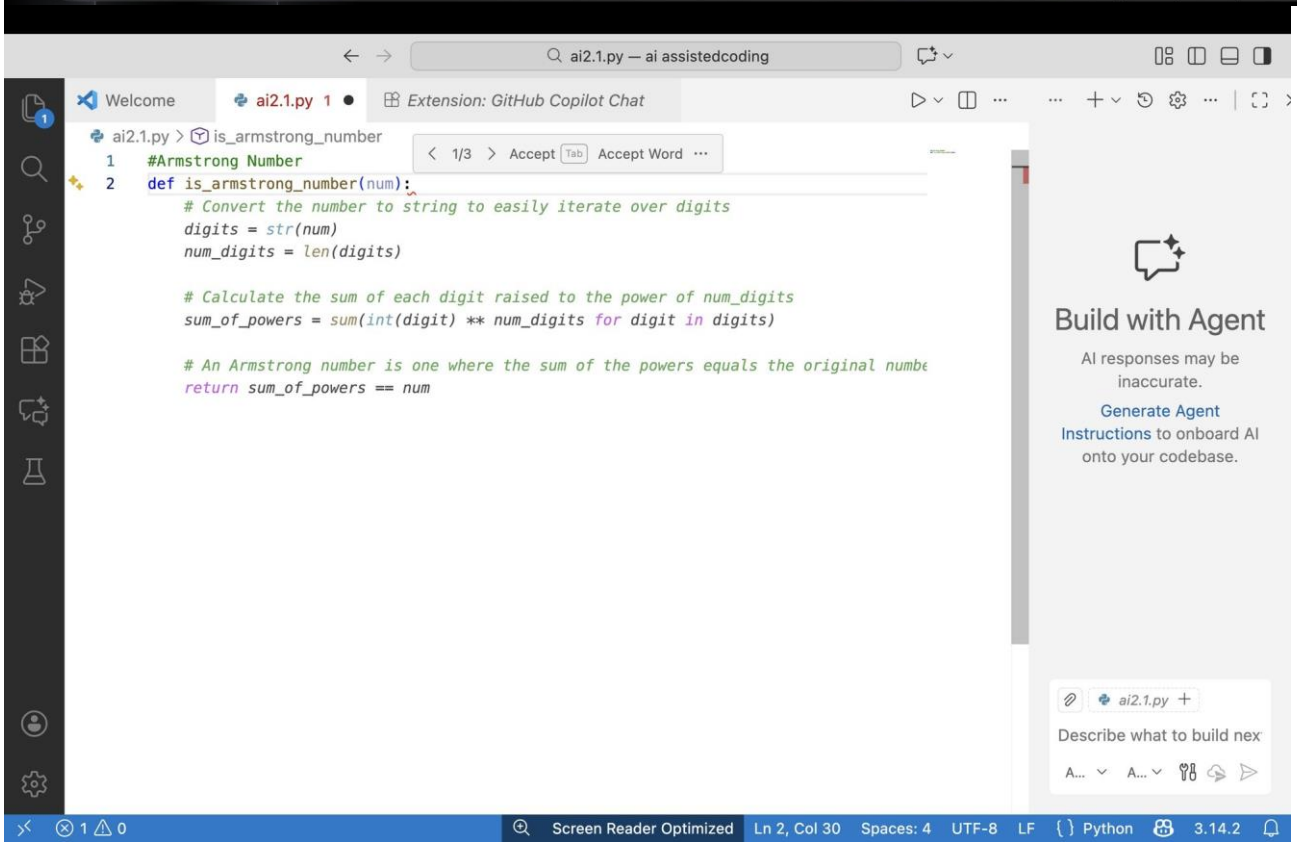
Generate an Armstrong number checker using Gemini and GitHub
Copilot.
Compare their outputs, logic style, and clarity.



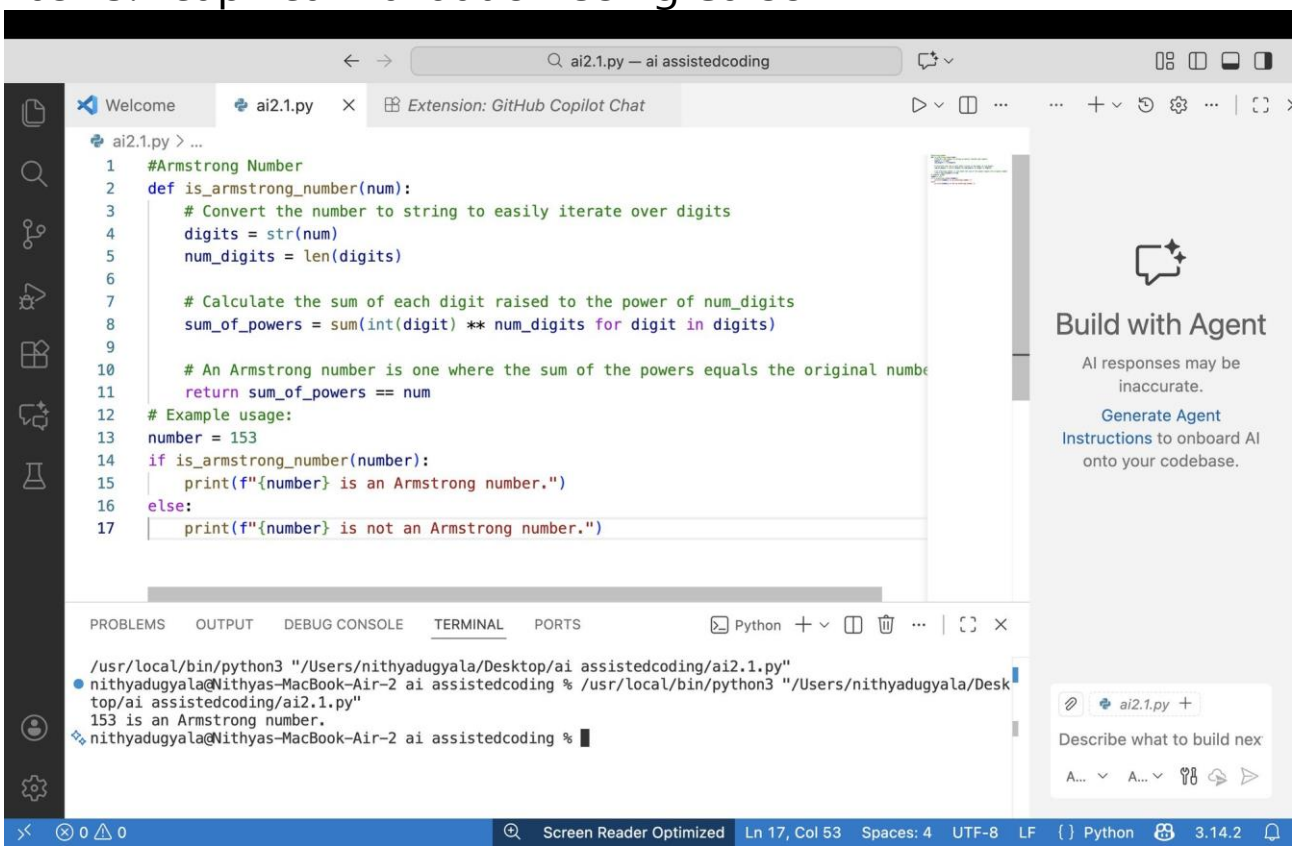

Chrome File Edit View History Bookmarks Profiles Tab Window Help
Mon Jan 12 2:02 PM
Lab Assignment 2.1
ai assisted2.1.py - Colab
Introducing GPT-5 | OpenAI
Google Gemini Python Task
colab.research.google.com/drive/1h3JwUaKbdhweTZhzzWlWdmYJus8p4--2#scrollTo=f6ffffd4
School
Commands
+ Code
+ Text
Run all
RAM
Disk
[3]
0s
def is_armstrong_number(num):
"""
Checks if a number is an Armstrong number.
An Armstrong number (also known as a narcissistic number,
pluperfect digital invariant, or plus perfect number) is a
number that is the sum of its own digits each raised to the
power of the number of digits.
Args:
num (int): An integer to check.
Returns:
bool: True if the number is an Armstrong number, False otherwise.
"""
if not isinstance(num, int) or num < 0:
return False
# Convert number to string to get digits and count length
num_str = str(num)
n_digits = len(num_str)
armstrong_sum = 0
for digit_char in num_str:
digit = int(digit_char)
armstrong_sum += digit ** n_digits
return armstrong_sum == num
[4]
0s
# Example usage:
print(f"Is 9 an Armstrong number? {is_armstrong_number(9)}")
Variables
Terminal
2:01 PM
Python 3

Using vs and GitHub copilot





Task 3: Leap Year Validation Using Cursor AI



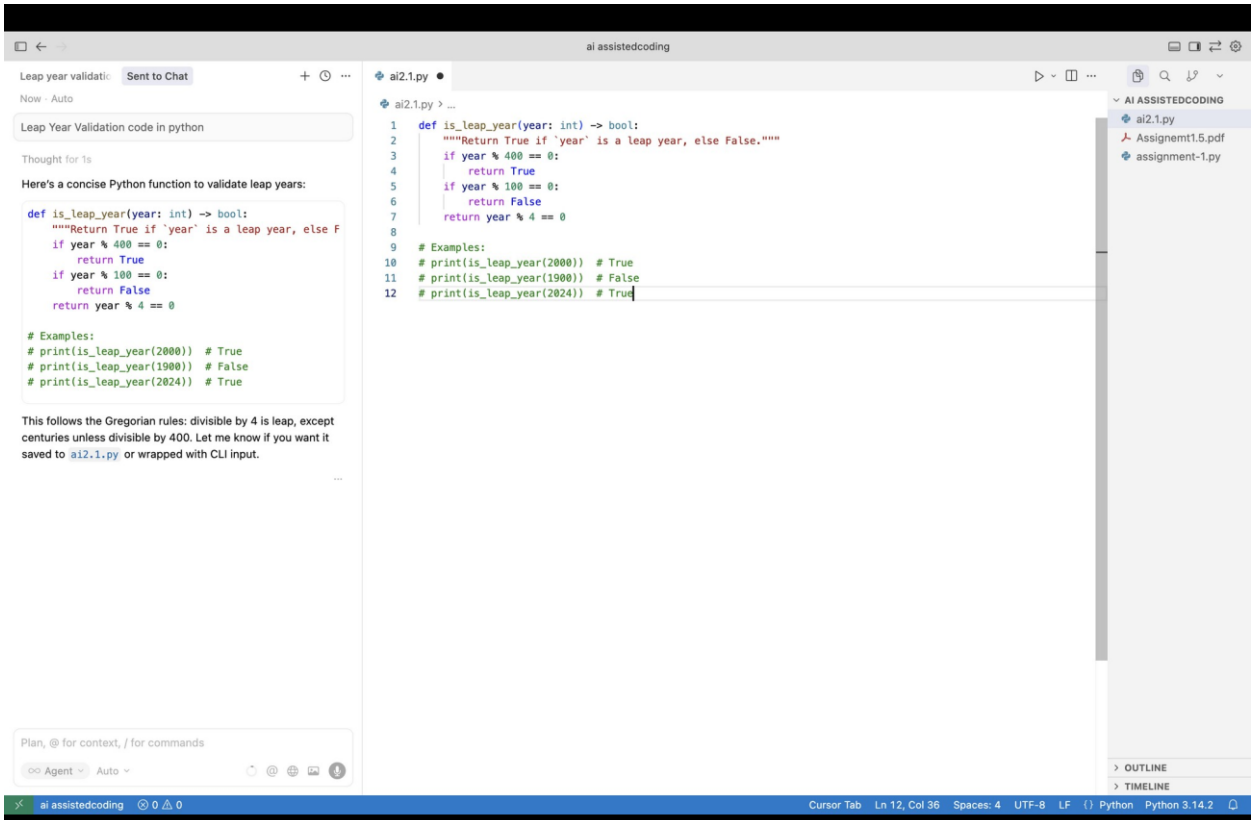
❖ Scenario:

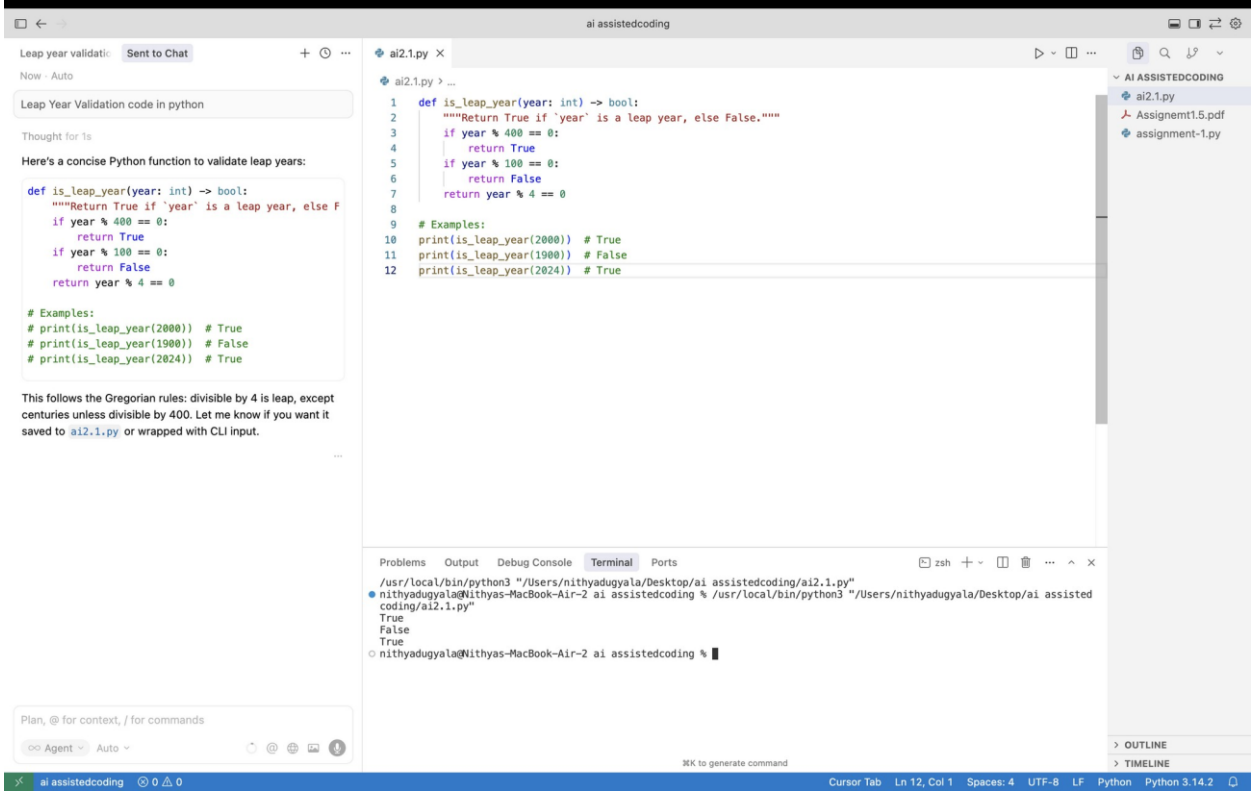
You are validating a calendar module for a backend system.

❖ Task:

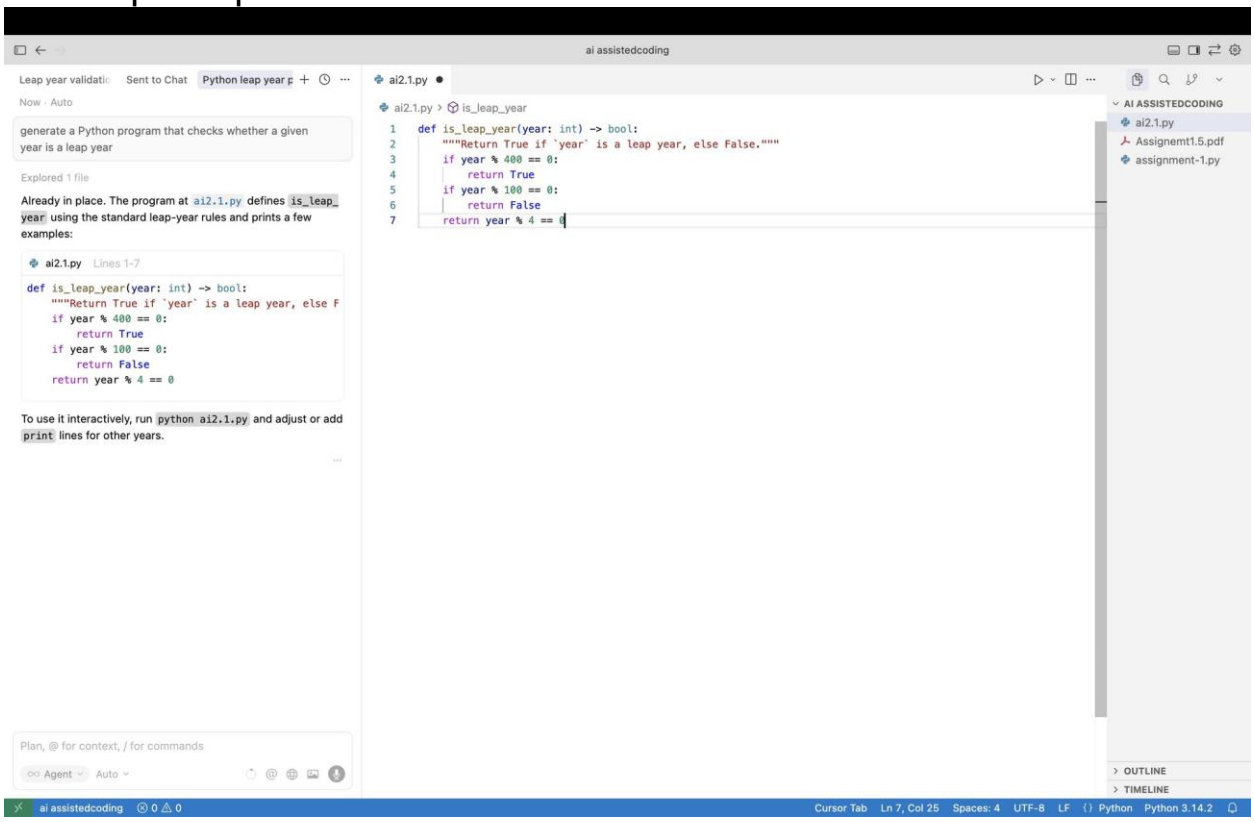
Use Cursor AI to generate a Python program that checks whether a given
year is a leap year.

Use at least two different prompts and observe changes in code.





Other prompt:



task 4: Student Logic + AI Refactoring (Odd/Even Sum)

❖ Scenario:

Company policy requires developers to write logic before using AI.

❖ Task:

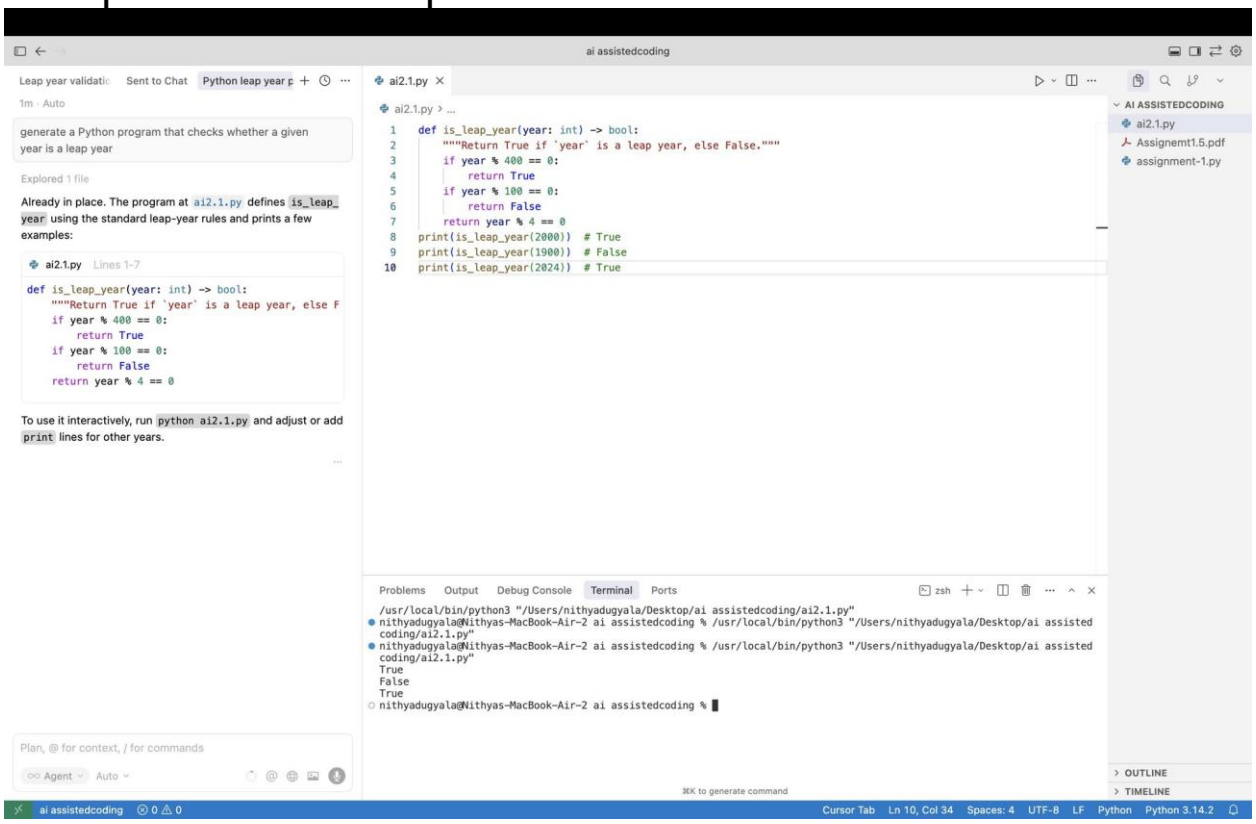
Write a Python program that calculates the sum of odd and even numbers
in a tuple, then refactor it using any AI tool.

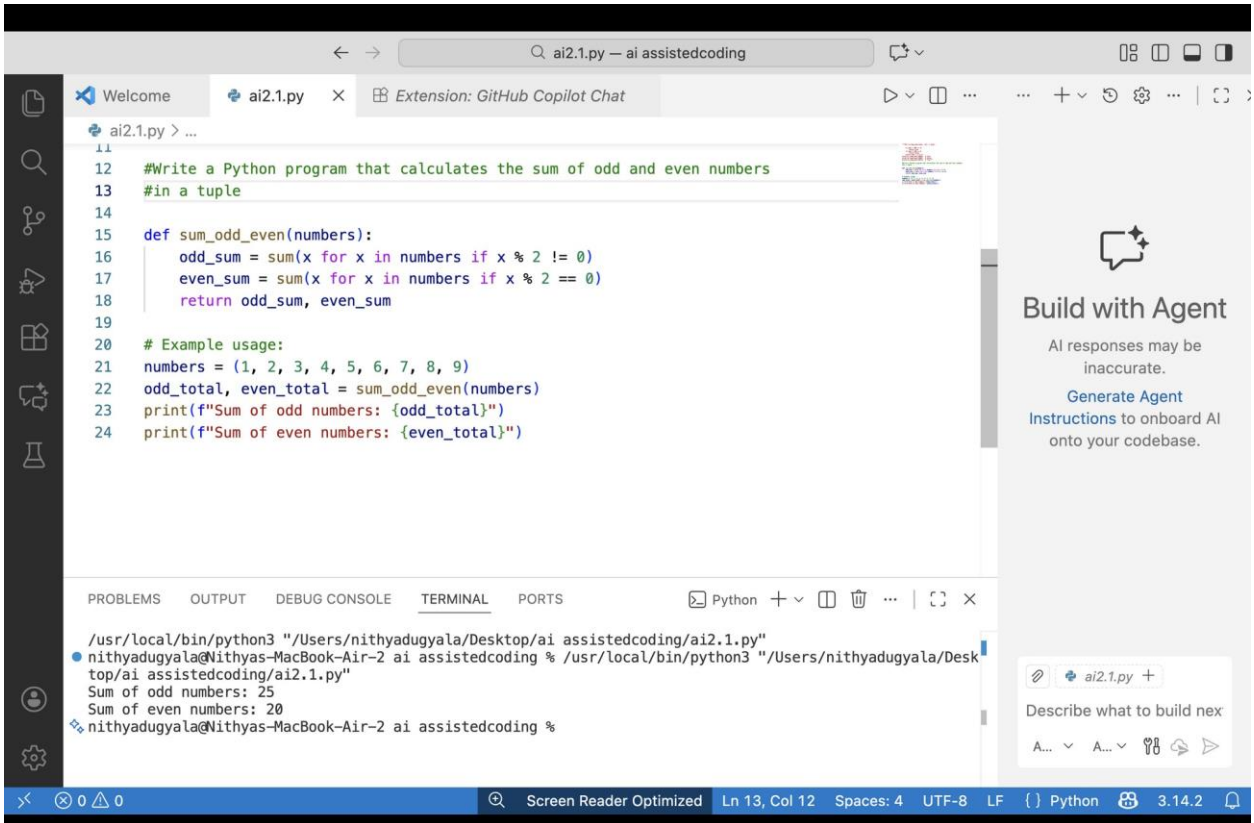
Expected Output:

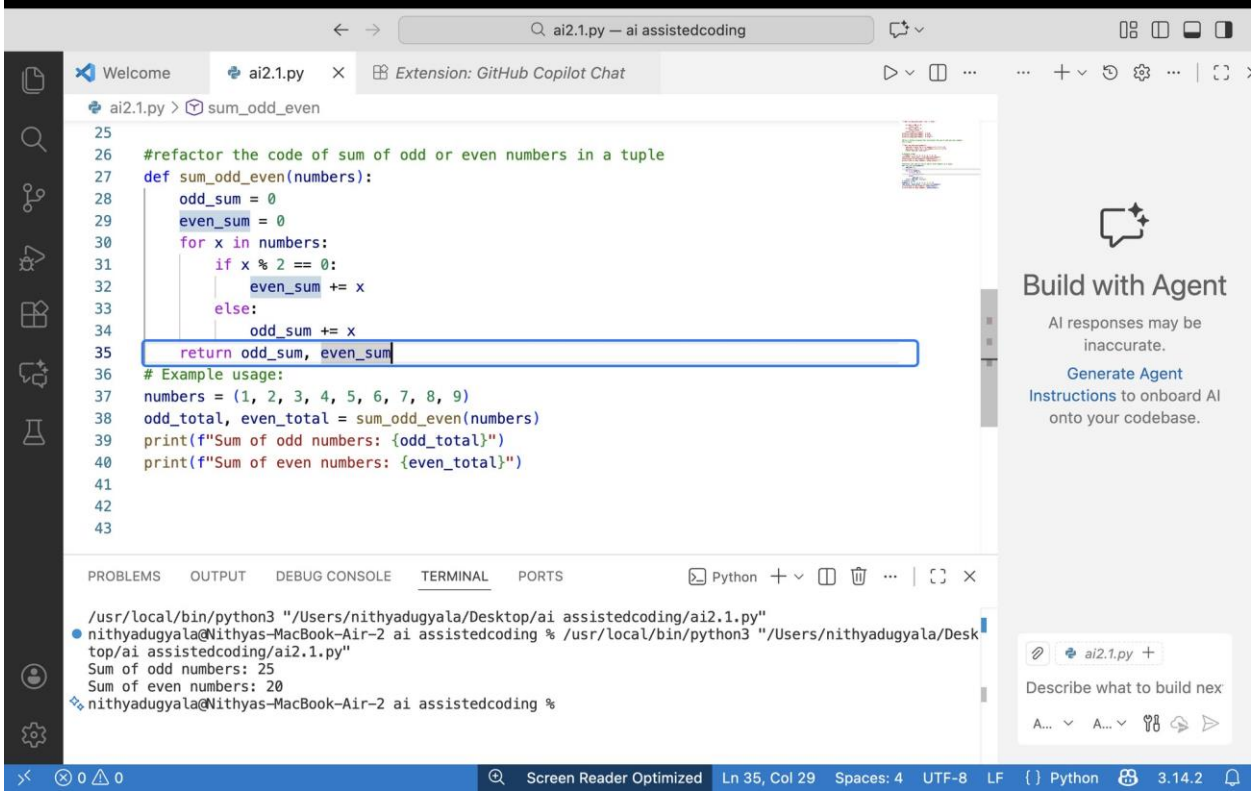
➢ Original code

➢ Refactored code

➢ Explanation of improvements




ai2.1.py — ai assistedcoding
Welcome
ai2.1.py
Extension: GitHub Copilot Chat
ai2.1.py > ...
#Write a Python program that calculates the sum of odd and even numbers
#in a tuple
def sum_odd_even(numbers):
odd_sum = sum(x for x in numbers if x % 2 != 0)
even_sum = sum(x for x in numbers if x % 2 == 0)
return odd_sum, even_sum
# Example usage:
numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
odd_total, even_total = sum_odd_even(numbers)
print(f"Sum of odd numbers: {odd_total}")
print(f"Sum of even numbers: {even_total}")
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
/usr/local/bin/python3 "/Users/nithyadugyala/Desktop/ai assistedcoding/ai2.1.py"
nithyadugyala@Nithyas-MacBook-Air-2 ai assistedcoding % /usr/local/bin/python3 "/Users/nithyadugyala/Desktop/ai assistedcoding/ai2.1.py"
Sum of odd numbers: 25
Sum of even numbers: 20
nithyadugyala@Nithyas-MacBook-Air-2 ai assistedcoding %
Build with Agent
AI responses may be inaccurate.
Generate Agent Instructions to onboard AI onto your codebase.
ai2.1.py
Describe what to build next
Screen Reader Optimized
Ln 13, Col 12
Spaces: 4
UTF-8
LF
Python
3.14.2


ai2.1.py — ai assistedcoding
Welcome
ai2.1.py
Extension: GitHub Copilot Chat
ai2.1.py > sum_odd_even
#refactor the code of sum of odd or even numbers in a tuple
def sum_odd_even(numbers):
odd_sum = 0
even_sum = 0
for x in numbers:
if x % 2 == 0:
even_sum += x
else:
odd_sum += x
return odd_sum, even_sum
# Example usage:
numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
odd_total, even_total = sum_odd_even(numbers)
print(f"Sum of odd numbers: {odd_total}")
print(f"Sum of even numbers: {even_total}")
PROBLEMS
OUTPUT
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TERMINAL
PORTS
Python
/usr/local/bin/python3 "/Users/nithyadugyala/Desktop/ai assistedcoding/ai2.1.py"
nithyadugyala@Nithyas-MacBook-Air-2 ai assistedcoding % /usr/local/bin/python3 "/Users/nithyadugyala/Desktop/ai assistedcoding/ai2.1.py"
Sum of odd numbers: 25
Sum of even numbers: 20
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ai2.1.py
Describe what to build next
Screen Reader Optimized
Ln 35, Col 29
Spaces: 4
UTF-8
LF
Python
3.14.2