**Project 1: Secret Message Decoder from a Text File**

**❓ Question**

Your friend has sent you a text file containing n lines. He sent a secret message with it, which tells you the **place and time** where you have to go and meet him.

He challenges you to find it **without seeing the content** of the file directly. Instead, you must write a Python program that **analyses the text file** and extracts the hidden information using the following **hints**:

**Hints to find the secret message:**

1. The **number of lines** in the file tells you the **meeting time**.
   * Condition: 1 × number of lines < 24
   * If the number of lines is **greater than 12**, convert it to **12-hour format**.
     + E.g., If number of lines = 15 → Time is **3 PM**
     + If number of lines = 10 → Time is **10 AM**
2. The **word appearing the maximum number of times** tells you the **meeting place**.
   * The meeting place will be a **street name** formed by the **most frequent word + " Street"**.
     + E.g., If the word Park appears the most → Meeting place: **Park Street**

**Explanation of the Sample**

Let's say your text file (sample.txt) contains 20 lines and the word Apollo appears **25 times**, which is the highest frequency of any word.

Then:

* 20 lines → 8 PM (12-hour format of 20)
* Most frequent word: Apollo → Place: **Apollo Street**

**Python Code**

from collections import Counter

def get\_meeting\_details(file\_path):

try:

with open(file\_path, 'r') as file:

lines = file.readlines()

# Step 1: Calculate meeting time

num\_lines = len(lines)

if num\_lines > 12:

meeting\_time = f"{num\_lines % 12} PM"

else:

meeting\_time = f"{num\_lines} AM"

# Step 2: Find the most frequent word

all\_words = []

for line in lines:

words = line.replace(",", "").replace(".", "").split()

all\_words.extend(words)

# Count the frequency of each word (case-sensitive as per example)

word\_counts = Counter(all\_words)

most\_common\_word, \_ = word\_counts.most\_common(1)[0]

# Step 3: Prepare output

meeting\_place = f"{most\_common\_word} Street"

print(f"Meeting time: {meeting\_time}")

print(f"Meeting place: {meeting\_place}")

except FileNotFoundError:

print("Error: The specified file was not found.")

except Exception as e:

print(f"An error occurred: {e}")

# Example usage

get\_meeting\_details("sample.txt")

**Output (Based on Sample File 1)**

Meeting time: 9 AM

Meeting place: Park Street

**Output (Based on Sample File 2)**

Meeting time: 8 PM

Meeting place: Apollo Street