



## Qtec Solution Limited

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# Task: AI Chat Log Summarizer

## Project Description:

AI Chat Log Summarizer is a Python-based tool that reads **.txt** chat logs between a user and an AI, parses the conversation, and produces a simple summary including message counts and frequently used keywords.

This project showcases basic NLP capabilities using Python, with an optional TF-IDF-based keyword extraction.

## Requirements:

### 1. Input:

- 1.1. A **.txt** file that contains a chat between a user and an AI, formatted like this:

```
User: Hi, can you tell me about Python?
AI: Sure! Python is a popular programming language known for
its readability.
User: What can I use it for?
AI: You can use Python for web development, data analysis,
AI, and more.
```

### 2. What your script should do:

#### 2.1. Chat Log Parsing

- Separate messages by speaker (**User :** and **AI :**).
- Store messages in appropriate structures for further analysis.

#### 2.2. Message Statistics

- Count total messages.
- Count messages from **User** vs. **AI**.



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## 2.3. Keyword Analysis

- Extract the top 5 most frequently used words.
- Exclude common stop words (e.g., "the", "is", "and").

## 2.4. Generate Summary

Output a clear summary that includes:

- Total number of exchanges.
- Nature of the conversation (based on keyword topics).
- Most common keywords.
- Example of a basic **summary** like:

### Summary:

- The conversation had 15 exchanges.
- The **user** asked mainly about Python **and** its uses.
- Most common keywords: Python, use, data, AI, language.

## 3. Bonus (Optional):

- 3.1. Use a simple **TF-IDF** approach or **nltk** library for better keyword extraction.
- 3.2. Allow summarization of multiple chat logs from a folder.

## Sample Chat Log: **chat.txt**

User: Hello!

AI: Hi! How can I assist you today?

User: Can you **explain** what machine learning **is**?

AI: Certainly! Machine learning **is** a **field of** AI that allows systems **to** learn **from** data.



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## Submission Instructions:

- Commit your code to your GitHub repository from the initial setup.
- Make the repository public and share the GitHub URL with us for evaluation.
- Include a **README.md** that:
  - Clearly explains the project
  - Shows how to run it
  - Includes screenshots or sample outputs (if possible)
- Avoid pushing everything all at once after finishing the task. We'll be reviewing your commit history to understand your **thought process, problem-solving approach, and code structure.**
- **Partial progress is okay.**

Even if you can't complete all the features, submit whatever you have. We value effort, clarity, and the way you approach challenges.

**Note:** Please reply to the same email thread with your GitHub link and any other relevant project/demo links.

**Deadline:** As soon as possible (ASAP).

**Job Post Link:** <https://www.facebook.com/share/p/16FAU6DHIM/>