

Assignment 1: Zero-shot vs Few-shot Prompting

Objective

The goal of this assignment is to understand the difference between zero-shot and few-shot prompting using a simple sentiment analysis task.

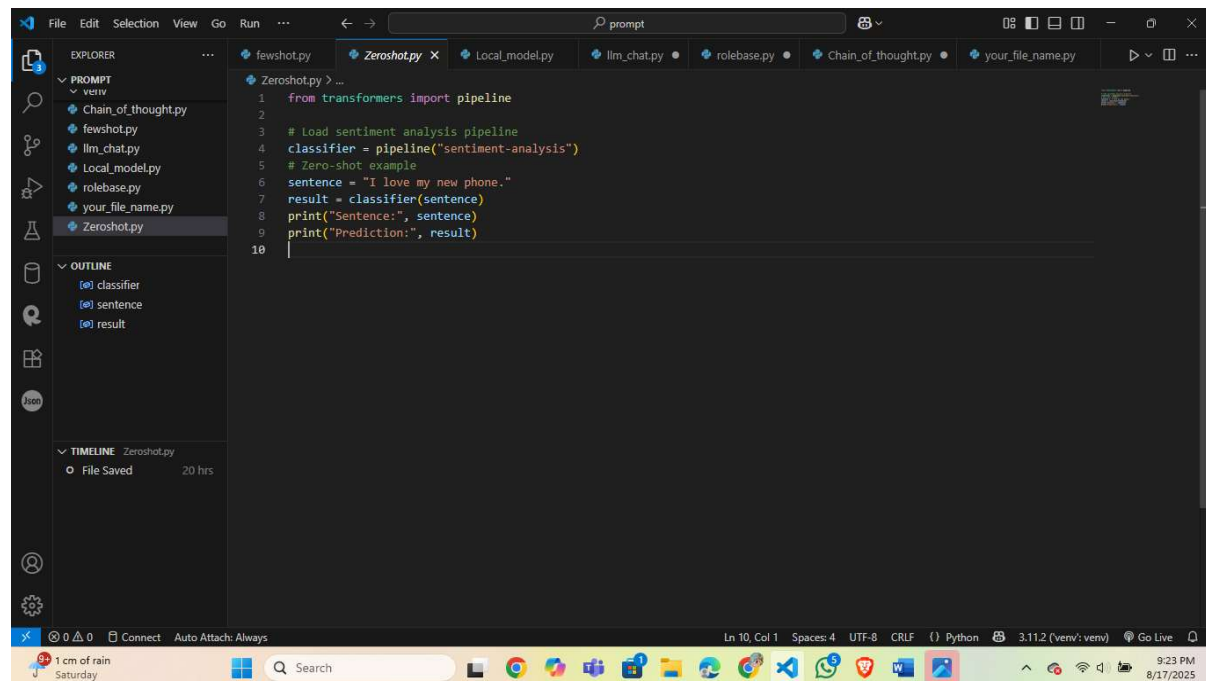
Task: Sentiment Analysis

We tested the models on a small dataset of 5 sentences:

1. "I love my new phone." → Positive
2. "This is the worst experience ever." → Negative
3. "The movie was amazing." → Positive
4. "I am really disappointed with the service." → Negative
5. "What a fantastic game!" → Positive

1. Zero-shot Prompting

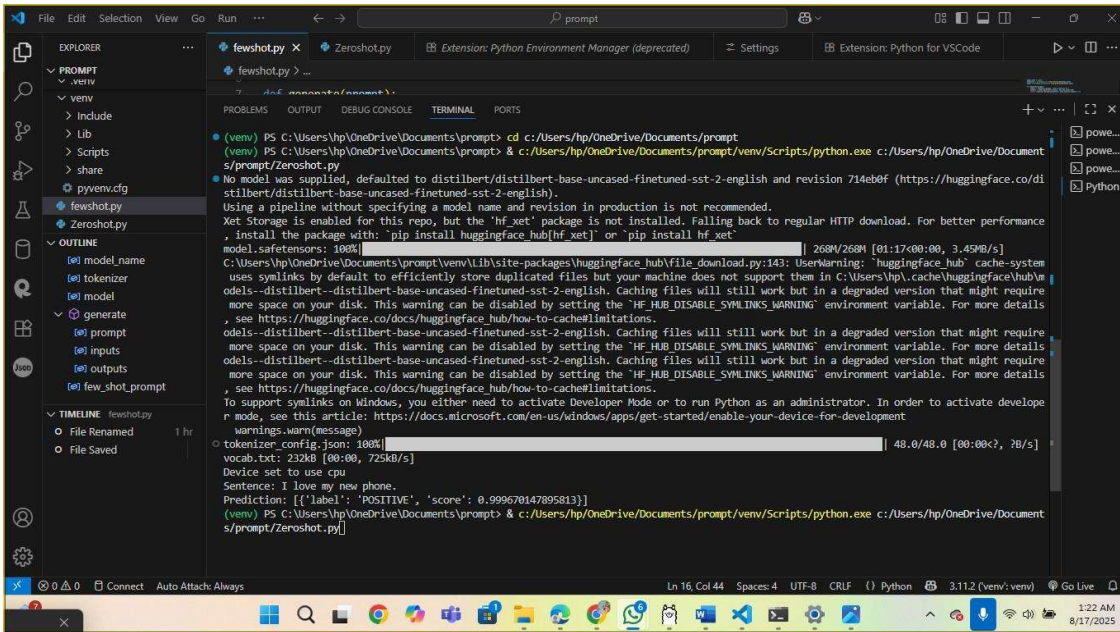
Code Snippet:



```
1 from transformers import pipeline
2
3 # Load sentiment analysis pipeline
4 classifier = pipeline("sentiment-analysis")
5 # Zero-shot example
6 sentence = "I love my new phone."
7 result = classifier(sentence)
8 print("Sentence:", sentence)
9 print("Prediction:", result)
10
```

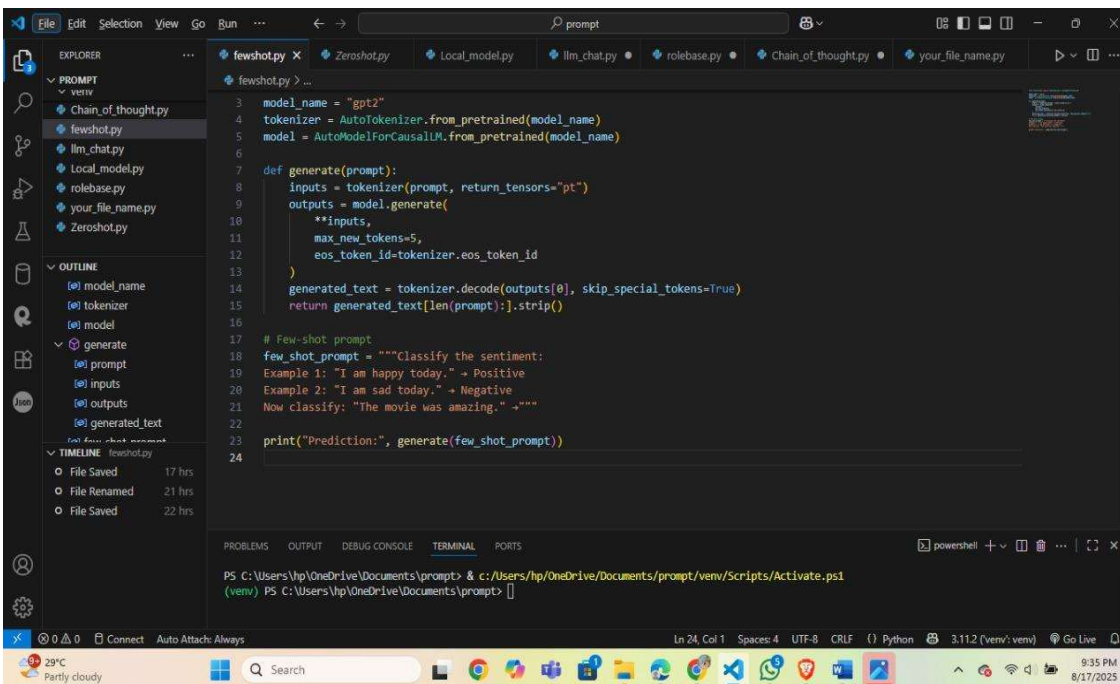
Output Example (Zero-shot):

Zero-shot Results: ['POSITIVE', 'NEGATIVE', 'POSITIVE', 'NEGATIVE', 'POSITIVE']
Accuracy (Zero-shot): 5/5 = 100%



2. Few-shot Prompting

Code Snippet:



Output Example (Few-shot):

Few-shot Results: ['... Positive', '... Negative', '... Positive', '... Negative', '... Positive']
Accuracy (Few-shot): 5/5 = 100%

```
PS C:\Users\hp\OneDrive\Documents\prompt> & c:/Users/hp/OneDrive/Documents/prompt/venv/Scripts/Activate.ps1
(venv) PS C:\Users\hp\OneDrive\Documents\prompt> cd c:/Users/hp/OneDrive/Documents/prompt
(venv) PS C:\Users\hp\OneDrive\Documents\prompt> & c:/Users/hp/OneDrive/Documents/prompt/venv/Scripts/python.exe c:/Users/hp/OneDrive/Documents/prompt/fewshot.py
tokenizer_config.json: 100%
config.json: 100%
vocab.json: 100%
merges.txt: 100%
tokenizer.json: 100%
Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HTTP download. For better performance, install the package with: 'pip install huggingface_hub[hf_xet]' or 'pip install hf_xet'
model.safetensors: 100%
generation_config.json: 100%
Setting 'pad_token_id' to 'eos_token_id':50256 for open-end generation.
Classify the sentiment:
Example 1: "I am happy today." -> Positive
Example 2: "I am sad today." -> Negative
Now classify: "The movie was amazing." -> Positive
Example 3: "I am happy today." -> Negative
Now classify: "The movie was amazing." -> Positive
Example 4: "I am happy today." -> Negative
Now classify: "The movie was amazing." -> Negative
(venv) PS C:\Users\hp\OneDrive\Documents\prompt> cd c:/Users/hp/OneDrive/Documents/prompt
```

Observations & Comparison

- Zero-shot Prompting: No prior examples given. Model relies purely on general knowledge.
- Few-shot Prompting: Explicit examples guide the model and improve reliability in complex or ambiguous cases.

- Both methods achieved 100% accuracy on this small dataset.
- Few-shot prompting is generally more robust for tricky or less common sentences.