```
In [1]: !pip install openai==0.27.8
```

```
Requirement already satisfied: openai==0.27.8 in c:\users\bindhu\anaconda3\lib\site-packages (0.27.8)
Requirement already satisfied: aiohttp in c:\users\bindhu\anaconda3\lib\site-packages (from openai==0.27.8) (3.11.10)
Requirement already satisfied: tqdm in c:\users\bindhu\anaconda3\lib\site-packages (from openai==0.27.8) (4.62.3)
Requirement already satisfied: requests>=2.20 in c:\users\bindhu\anaconda3\lib\site-packages (from openai==0.27.8) (2.26.0)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai==0.27.8) (2024.8.30)
Requirement already satisfied: charset-normalizer~=2.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai==0.27.8) (2.0.4)
Requirement already satisfied: idna<4,>=2.5 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai==0.27.8) (3.2)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai==0.27.8) (1.26.7)
Requirement already satisfied: propcache>=0.2.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (0.2.1)
Requirement already satisfied: frozenlist>=1.1.1 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (1.5.0)
Requirement already satisfied: yarl<2.0,>=1.17.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (1.18.3)
Requirement already satisfied: aiosignal>=1.1.2 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (1.3.1)
Requirement already satisfied: async-timeout<6.0,>=4.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (5.0.1)
Requirement already satisfied: multidict<7.0,>=4.5 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (6.1.0)
Requirement already satisfied: aiohappyeyeballs>=2.3.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (2.4.4)
Requirement already satisfied: attrs>=17.3.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai==0.27.8) (24.2.0)
Requirement already satisfied: typing-extensions>=4.1.0 in c:\users\bindhu\anaconda3\lib\site-packages (from multidict<7.0,>=4.5->aiohttp->openai==0.27.8) (4.12.2)
Requirement already satisfied: colorama in c:\users\bindhu\anaconda3\lib\site-packages (from tqdm->openai==0.27.8) (0.4.6)
```

```
In [2]: !pip show openai
```

```
Name: openai
Version: 0.27.8
Summary: Python client library for the OpenAI API
Home-page: https://github.com/openai/openai-python
Author: OpenAI
Author-email: support@openai.com
License:
Location: c:\users\bindhu\anaconda3\lib\site-packages
Requires: requests, tqdm, aiohttp
Required-by:
```

```
In [3]: !pip install openai ipywidgets
```

```
Requirement already satisfied: openai in c:\users\bindhu\anaconda3\lib\site-packages (0.27.8)
Requirement already satisfied: ipywidgets in c:\users\bindhu\anaconda3\lib\site-packages (7.6.5)
Requirement already satisfied: aiohttp in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (3.11.10)
Requirement already satisfied: requests>=2.20 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (2.26.0)
Requirement already satisfied: tqdm in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (4.62.3)
Requirement already satisfied: nbformat>=4.2.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (5.1.3)
Requirement already satisfied: ipython>=4.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (7.29.0)
Requirement already satisfied: widgetsnbextension~=3.5.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (3.5.1)
Requirement already satisfied: ipykernel>=4.5.1 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (6.4.1)
Requirement already satisfied: ipython-genutils~=0.2.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (0.2.0)
Requirement already satisfied: traitlets>=4.3.1 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (5.1.0)
Requirement already satisfied: jupyterlab-widgets>=1.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipywidgets) (1.0.0)
Requirement already satisfied: jupyter-client<8.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipykernel>=4.5.1->ipywidgets) (6.1.12)
Requirement already satisfied: matplotlib-inline<0.2.0,>=0.1.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipykernel>=4.5.1->ipywidgets) (0.1.2)
Requirement already satisfied: tornado<7.0,>=4.2 in c:\users\bindhu\anaconda3\lib\site-packages (from ipykernel>=4.5.1->ipywidgets) (6.1)
Requirement already satisfied: debugpy<2.0,>=1.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipykernel>=4.5.1->ipywidgets) (1.4.1)
Requirement already satisfied: pickleshare in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (0.7.5)
Requirement already satisfied: jedi>=0.16 in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (0.18.0)
Requirement already satisfied: pygments in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (2.18.0)
Requirement already satisfied: prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (3.0.20)
Requirement already satisfied: backcall in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (0.2.0)
Requirement already satisfied: decorator in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (5.1.0)
Requirement already satisfied: colorama in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (0.4.6)
Requirement already satisfied: setuptools>=18.5 in c:\users\bindhu\anaconda3\lib\site-packages (from ipython>=4.0.0->ipywidgets) (58.0.4)
Requirement already satisfied: parso<0.9.0,>=0.8.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jedi>=0.16->ipython>=4.0.0->ipywidgets) (0.8.2)
Requirement already satisfied: jupyter-core>=4.6.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jupyter-client<8.0->ipykernel>=4.5.1->ipywidgets) (4.8.1)
Requirement already satisfied: pyzmq>=13 in c:\users\bindhu\anaconda3\lib\site-packages (from jupyter-client<8.0->ipykernel>=4.5.1->ipywidgets) (22.2.1)
Requirement already satisfied: python-dateutil>=2.1 in c:\users\bindhu\anaconda3\lib\site-packages (from jupyter-client<8.0->ipykernel>=4.5.1->ipywidgets) (2.8.2)
Requirement already satisfied: pywin32>=1.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jupyter-core>=4.6.0->jupyter-client<8.0->ipykernel>=4.5.1->ipywidgets) (228)
Requirement already satisfied: jsonschema!=2.5.0,>=2.4 in c:\users\bindhu\anaconda3\lib\site-packages (from nbformat>=4.2.0->ipywidgets) (3.2.0)
Requirement already satisfied: pyrsistent>=0.14.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.2.0->ipywidgets) (0.18.0)
Requirement already satisfied: six>=1.11.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.2.0->ipywidgets) (1.16.0)
Requirement already satisfied: attrs>=17.4.0 in c:\users\bindhu\anaconda3\lib\site-packages (from jsonschema!=2.5.0,>=2.4->nbformat>=4.2.0->ipywidgets) (24.2.0)
Requirement already satisfied: wcwidth in c:\users\bindhu\anaconda3\lib\site-packages (from prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0->ipython>=4.0.0->ipywidgets) (0.2.5)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai) (1.26.7)
Requirement already satisfied: idna<4,>=2.5 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai) (3.2)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai) (2024.8.30)
Requirement already satisfied: charset-normalizer~=2.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from requests>=2.20->openai) (2.0.4)
Requirement already satisfied: notebook>=4.4.1 in c:\users\bindhu\anaconda3\lib\site-packages (from widgetsnbextension~=3.5.0->ipywidgets) (6.4.5)
Requirement already satisfied: terminado>=0.8.3 in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.9.4)
Requirement already satisfied: nbconvert in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (6.1.0)
Requirement already satisfied: Send2Trash>=1.5.0 in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.8.0)
Requirement already satisfied: prometheus-client in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.11.0)
Requirement already satisfied: argon2-cffi in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (20.1.0)
Requirement already satisfied: jinja2 in c:\users\bindhu\anaconda3\lib\site-packages (from notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (2.11.3)
Requirement already satisfied: pywinpty>=0.5 in c:\users\bindhu\anaconda3\lib\site-packages (from terminado>=0.8.3->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.5.7)
Requirement already satisfied: aiosignal>=1.1.2 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (1.3.1)
Requirement already satisfied: frozenlist>=1.1.1 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (1.5.0)
Requirement already satisfied: aiohappyeyeballs>=2.3.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (2.4.4)
Requirement already satisfied: propcache>=0.2.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (0.2.1)
Requirement already satisfied: multidict<7.0,>=4.5 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (6.1.0)
Requirement already satisfied: yarl<2.0,>=1.17.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (1.18.3)
Requirement already satisfied: async-timeout<6.0,>=4.0 in c:\users\bindhu\anaconda3\lib\site-packages (from aiohttp->openai) (5.0.1)
Requirement already satisfied: typing-extensions>=4.1.0 in c:\users\bindhu\anaconda3\lib\site-packages (from multidict<7.0,>=4.5->aiohttp->openai) (4.12.2)
Requirement already satisfied: cffi>=1.0.0 in c:\users\bindhu\anaconda3\lib\site-packages (from argon2-cffi->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.14.6)
Requirement already satisfied: pycparser in c:\users\bindhu\anaconda3\lib\site-packages (from cffi>=1.0.0->argon2-cffi->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (2.20)
Requirement already satisfied: MarkupSafe>=0.23 in c:\users\bindhu\anaconda3\lib\site-packages (from jinja2->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.1.1)
Requirement already satisfied: entrypoints>=0.2.2 in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.3)
Requirement already satisfied: mistune<2,>=0.8.1 in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.8.4)
Requirement already satisfied: testpath in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.5.0)
Requirement already satisfied: jupyterlab-pygments in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.1.2)
Requirement already satisfied: pandocfilters>=1.4.1 in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.4.3)
Requirement already satisfied: bleach in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (4.0.0)
Requirement already satisfied: nbclient<0.6.0,>=0.5.0 in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.5.3)
Requirement already satisfied: defusedxml in c:\users\bindhu\anaconda3\lib\site-packages (from nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.7.1)
Requirement already satisfied: nest-asyncio in c:\users\bindhu\anaconda3\lib\site-packages (from nbclient<0.6.0,>=0.5.0->nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.5.1)
Requirement already satisfied: async-generator in c:\users\bindhu\anaconda3\lib\site-packages (from nbclient<0.6.0,>=0.5.0->nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (1.10)
Requirement already satisfied: webencodings in c:\users\bindhu\anaconda3\lib\site-packages (from bleach->nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (0.5.1)
Requirement already satisfied: packaging in c:\users\bindhu\appdata\roaming\python\python39\site-packages (from bleach->nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (21.3)
Requirement already satisfied: pyparsing!=3.0.5,>=2.0.2 in c:\users\bindhu\anaconda3\lib\site-packages (from packaging->bleach->nbconvert->notebook>=4.4.1->widgetsnbextension~=3.5.0->ipywidgets) (3.0.4)
```

```
In [12]: import openai
         import ipywidgets as widgets
         from IPython.display import display, clear_output

         # Set your OpenAI API key
         openai.api_key ="sk-proj-FSgOOFWCEzFZ5mgR7CY4Cdhx9u4tWRD_-u72RujFBk6RFbOjVftCsksys1BZObWlgUJvAPQscqT3BlbkFJeIHlvx0RrBweevS5NBHIyaacYlMPCMOl2ZxucprRdiiyj0l8bXJM0Jv4_ghNakub4cdbAWGBw
```

```
In [13]: def analyze_code(button_click):
             # Clear previous output
             clear_output(wait=True)
             print("Analyzing your code...")

             # Get the input code from the text area
             code_snippet = code_input.value

             if not code_snippet.strip():
                 print("Please enter a code snippet to analyze!")
                 return

             try:
                 # Call OpenAI API to analyze the code
                 response = openai.ChatCompletion.create(
                     model="gpt-3.5-turbo",
                     messages=[
                         {"role": "system", "content": "You are a helpful assistant for code optimization."},
                         {"role": "user", "content": f"Analyze the following code for performance issues and suggest optimizations:\n\n{code_snippet}"}
                     ]
                 )

                 # Extract and display suggestions
                 suggestions = response["choices"][0]["message"]["content"]
                 print("Analysis and Suggestions:\n")
                 print(suggestions)

             except Exception as e:
                 print(f"An error occurred: {e}")
```

```
In [14]: # Create input text area for code
         code_input = widgets.Textarea(
             placeholder="Paste your Python code here...",
             description="Code:",
             layout=widgets.Layout(width="100%", height="200px")
         )

         # Create a button to analyze the code
         analyze_button = widgets.Button(
             description="Analyze Code",
             button_style="primary",
             tooltip="Click to analyze the code for performance bottlenecks."
         )

         # Link the button to the analyze_code function
         analyze_button.on_click(analyze_code)

         # Display the interface
         display(widgets.VBox([code_input, analyze_button]))
```

```
Analyzing your code...
An error occurred: You exceeded your current quota, please check your plan and billing details. For more information on this error, read the docs: https://platform.openai.com/docs/guides/error-codes/api-errors.
```

```
In [7]: !pip install --upgrade openai
```

```
Requirement already satisfied: openai in c:\users\bindhu\anaconda3\lib\site-packages (0.27.8)
Collecting openai
  Using cached openai-1.57.1-py3-none-any.whl (389 kB)
Requirement already satisfied: pydantic<3,>=1.9.0 in c:\users\bindhu\appdata\roaming\python\python39\site-packages (from openai) (1.9.2)
Requirement already satisfied: anyio<5,>=3.5.0 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (4.7.0)
Requirement already satisfied: sniffio in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (1.3.1)
Requirement already satisfied: httpx<1,>=0.23.0 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (0.28.1)
Requirement already satisfied: distro<2,>=1.7.0 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (1.9.0)
Requirement already satisfied: jiter<1,>=0.4.0 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (0.8.2)
Requirement already satisfied: typing-extensions<5,>=4.11 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (4.12.2)
Requirement already satisfied: tqdm>4 in c:\users\bindhu\anaconda3\lib\site-packages (from openai) (4.62.3)
Requirement already satisfied: idna>=2.8 in c:\users\bindhu\anaconda3\lib\site-packages (from anyio<5,>=3.5.0->openai) (3.2)
Requirement already satisfied: exceptiongroup>=1.0.2 in c:\users\bindhu\anaconda3\lib\site-packages (from anyio<5,>=3.5.0->openai) (1.2.2)
Requirement already satisfied: certifi in c:\users\bindhu\anaconda3\lib\site-packages (from httpx<1,>=0.23.0->openai) (2024.8.30)
Requirement already satisfied: httpcore==1.* in c:\users\bindhu\anaconda3\lib\site-packages (from httpx<1,>=0.23.0->openai) (1.0.7)
Requirement already satisfied: h11<0.15,>=0.13 in c:\users\bindhu\anaconda3\lib\site-packages (from httpcore==1.*->httpx<1,>=0.23.0->openai) (0.14.0)
Requirement already satisfied: colorama in c:\users\bindhu\anaconda3\lib\site-packages (from tqdm>4->openai) (0.4.6)
Installing collected packages: openai
  Attempting uninstall: openai
    Found existing installation: openai 0.27.8
    Uninstalling openai-0.27.8:
      Successfully uninstalled openai-0.27.8
Successfully installed openai-1.57.1
```

```
In [ ]:
```