genai-math-llm-integration / Untitled.ipynb

Jansirani987 Add files via upload 3ba0ec9 · 9 minutes ago

116 lines (116 loc) · 3.78 KB

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In [2]:

```
import math
import os
from dotenv import load_dotenv, find_dotenv
import openai

_ = load_dotenv(find_dotenv())  # read local .env file
openai.api_key = os.environ['OPENAI_API_KEY']

def calculate_cylinder_volume(radius, height):
    """
    Calculate the volume of a cylinder using the formula:
    Volume = π * r^2 * h
    """
    if radius <= 0 or height <= 0:
        return "Radius and height must be positive numbers."

    volume = math.pi * (radius ** 2) * height
    return round(volume, 2)

def chat_with_openai(prompt):
    response = openai.ChatCompletion.create(
        model="gpt-4",
        messages=[
            {"role": "system", "content": "You are an assistant that helps cal
            {"role": "user", "content": prompt},
        ],
        functions=[
            {
                "name": "calculate_cylinder_volume",
                "description": "Calculate the volume of a cylinder given radiu
                "parameters": {
                    "type": "object",
                    "properties": {
                        "radius": {"type": "number", "description": "Radius of
                        "height": {"type": "number", "description": "Height of
                    },
                    "required": ["radius", "height"],
                },
            }
        ],
        function_call="auto",
    )

    if "function_call" in response["choices"][0]["message"]:
        function_name = response["choices"][0]["message"]["function_call"]["na
        arguments = eval(response["choices"][0]["message"]["function_call"]["a
        if function_name == "calculate_cylinder_volume":
            radius = arguments["radius"]
            height = arguments["height"]
            return calculate_cylinder_volume(radius, height)

    return response["choices"][0]["message"]["content"]


radius = float(input("Enter the radius of the cylinder: "))
height = float(input("Enter the height of the cylinder: "))

prompt = f"What is the volume of a cylinder with a radius of {radius} and a he
```

```
result = chat_with_openai(prompt)
print("Result:", result)
```

```
Enter the radius of the cylinder: 40
Enter the height of the cylinder: 126
Result: 633345.08
```

In [ ]: