Lesson 3: Function Integration

Objective:

This lesson covers how to integrate external functions or services (like APIs, databases, or other tools) into your AI-driven projects to enhance functionality.

Key Concepts:

- **Function Integration:** The process of combining multiple functions or services (external APIs, databases, etc.) into a cohesive workflow.
- **Callbacks:** A function passed as an argument to another function, which can be invoked at a later time.
- **Asynchronous Programming:** A method of coding that allows functions to run without blocking the execution of other tasks. Useful for APIs or functions that take a long time to complete.

Application:

1.

Integrating External Data:

2.

- Use APIs to fetch data that will be fed into your AI model. For example, pulling real-time data from a weather API and using it in your AI system for analysis.

3.

Modular Code:

4.

- Break your code into reusable functions, which allows you to easily swap out services or add new ones without disrupting the overall structure.

5.

Error Handling:

6.

- Implement error-handling mechanisms to manage failed API calls or data processing issues.

Example Code:

python
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import requests

```
def get_weather(city):
    api_url =
f"http://api.weatherapi.com/v1/current.json?key=YOUR_API_KEY&q={city}"
    response = requests.get(api_url)
    if response.status_code == 200:
        return response.json()
    else:
        return {"error": "Unable to fetch weather data"}
def generate_report(weather_data):
    if 'error' in weather_data:
        return "Error fetching weather data."
    else:
        return f"The current temperature in {weather_data['location']['name']} is
{weather_data['current']['temp_c']}°C."

city = "Tirana"
weather_data = get_weather(city)
report = generate_report(weather_data)print(report)
```