# AI ASSISTED CODING

## LAB EXAM-4

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BATCH : 03

### Q1: (API Integration)

**(a) Connect to YouTube Data API to fetch channel statistics.**

**Prompt:**

Write Python code that connects to the YouTube Data API (v3) to fetch statistics of a given YouTube channel (subscribers, views, video count). Use API key authentication.

CODE :

AI lab exam.py > ...

```python
import requests

API_KEY = "YOUR_API_KEY"
CHANNEL_ID = "UC_x5XG1OV2P6uZZ5FSM9Ttw"   # Example: Google Developers channel

url = "https://www.googleapis.com/youtube/v3/channels"
params = {
    "part": "statistics",
    "id": CHANNEL_ID,
    "key": API_KEY
}

response = requests.get(url, params=params)

if response.status_code == 200:
    data = response.json()
    stats = data["items"][0]["statistics"]
    print("Subscribers:", stats.get("subscriberCount"))
    print("Views:", stats.get("viewCount"))
    print("Total Videos:", stats.get("videoCount"))
else:
    print("Failed to fetch data. Status:", response.status_code)
class TransportAPI:
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Filter Code

```
[Running] python -u "c:\Users\surya\OneDrive\Desktop\AI assist\AI lab exam.py"
Failed to fetch data. Status: 400

[Done] exited with code=0 in 1.589 seconds
```

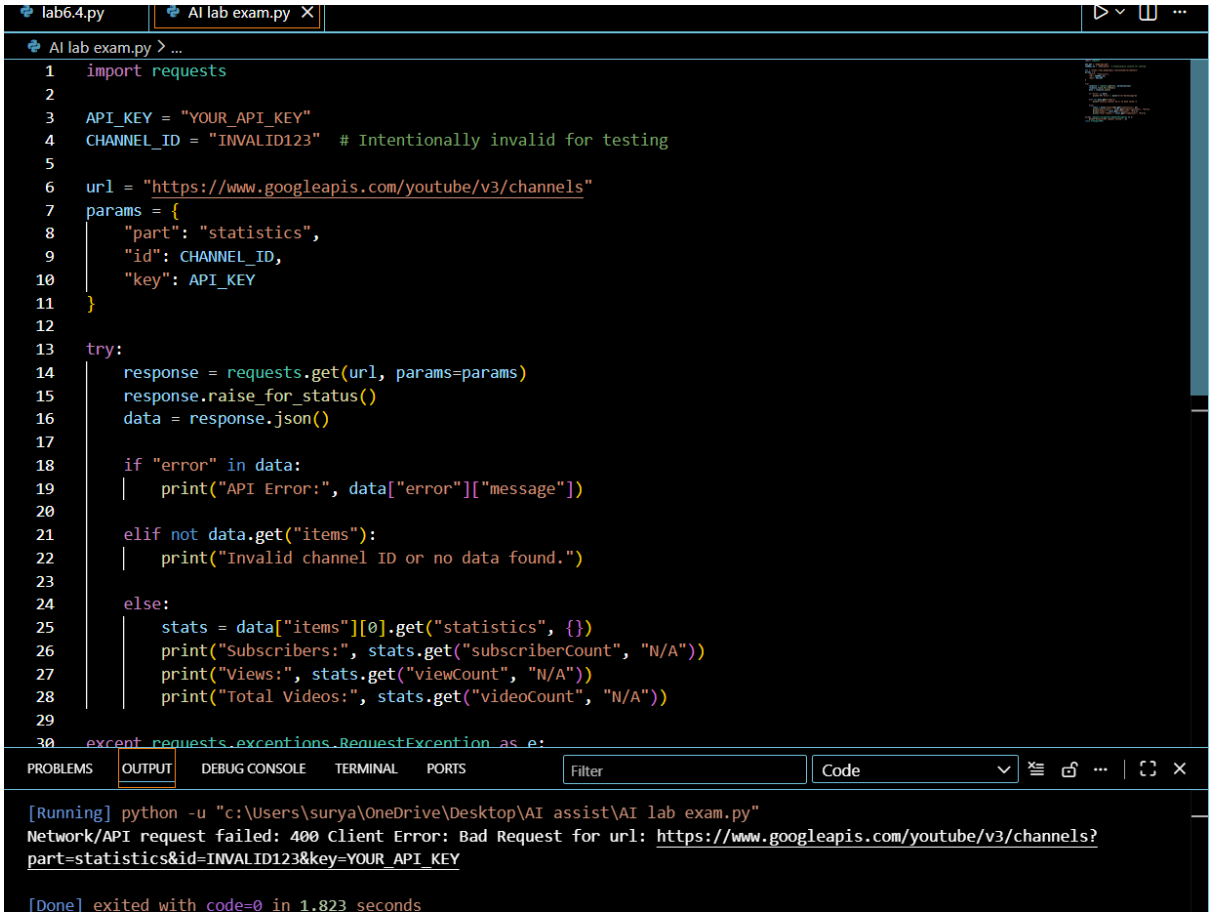
Observation :

- The code sends a GET request to youtube/v3/channels.
- Returns key statistics (subscribers, views, video count).
- Requires a valid API key.
- JSON response structure is nested; statistics are inside items → statistics.

(b) Handle API quota or invalid channel ID errors.

Prompt : Modify the code to gracefully handle YouTube API quota errors, invalid channel IDs, or missing response fields.

CODE :



```
lab6.4.py | AI lab exam.py
AI lab exam.py > ...
1   import requests
2
3   API_KEY = "YOUR_API_KEY"
4   CHANNEL_ID = "INVALID123"  # Intentionally invalid for testing
5
6   url = "https://www.googleapis.com/youtube/v3/channels"
7   params = {
8       "part": "statistics",
9       "id": CHANNEL_ID,
10      "key": API_KEY
11  }
12
13  try:
14      response = requests.get(url, params=params)
15      response.raise_for_status()
16      data = response.json()
17
18      if "error" in data:
19          print("API Error:", data["error"]["message"])
20
21      elif not data.get("items"):
22          print("Invalid channel ID or no data found.")
23
24      else:
25          stats = data["items"][0].get("statistics", {})
26          print("Subscribers:", stats.get("subscriberCount", "N/A"))
27          print("Views:", stats.get("viewCount", "N/A"))
28          print("Total Videos:", stats.get("videoCount", "N/A"))
29
30  except requests.exceptions.RequestException as e:

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS   Filter   Code

[Running] python -u "c:\Users\surya\OneDrive\Desktop\AI assist\AI lab exam.py"
Network/API request failed: 400 Client Error: Bad Request for url: https://www.googleapis.com/youtube/v3/channels?
part=statistics&id=INVALID123&key=YOUR_API_KEY

[Done] exited with code=0 in 1.823 seconds
```

Observation:

- Handles quota exceeded (data["error"]).
- Detects invalid channel ID (empty items list).
- Uses exception handling to catch network errors.
- Prevents runtime crashes due to missing fields.

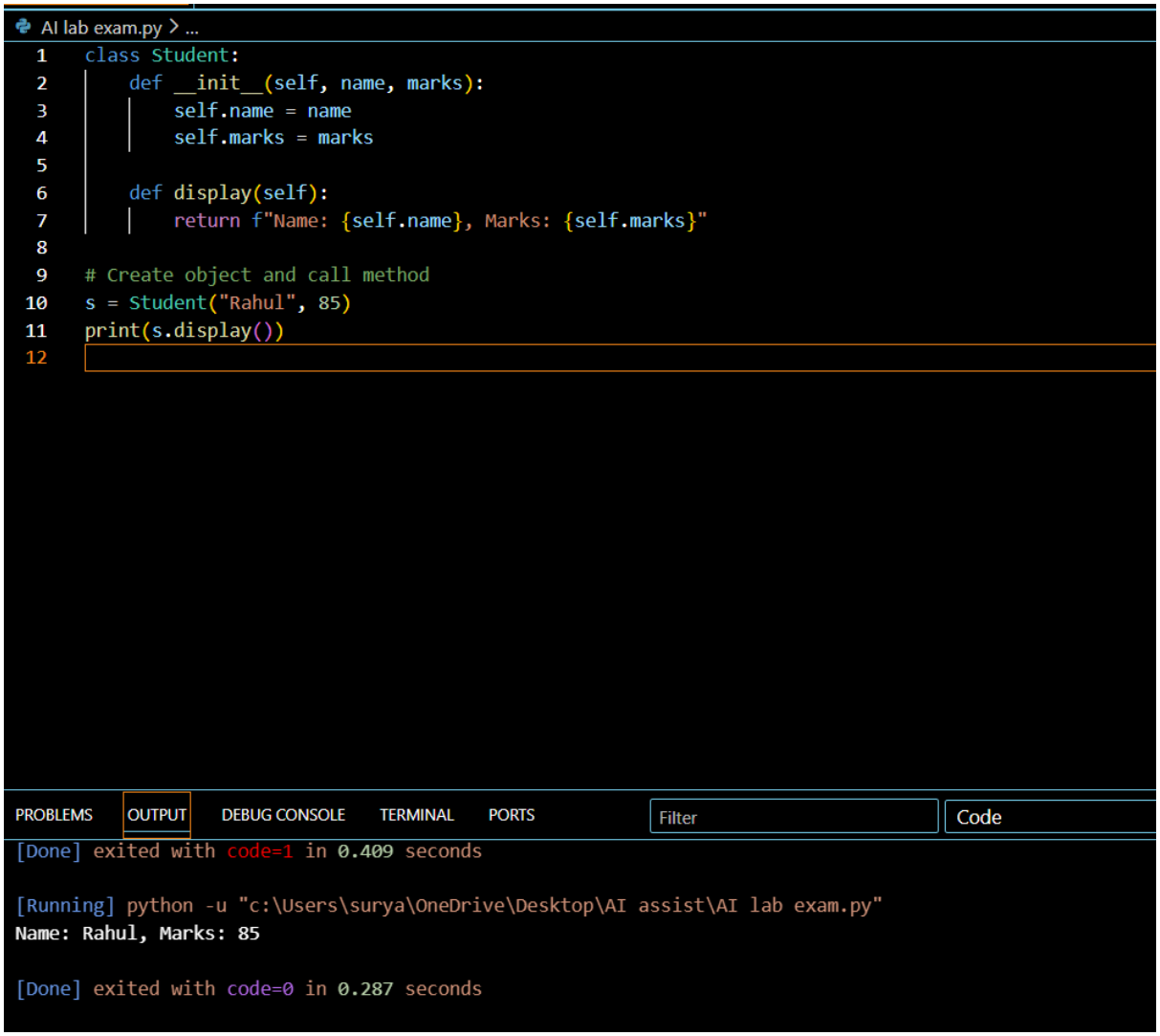
## Q2. (Code Translation)

### (a) Translate a Python class into Kotlin.

**Prompt:**

Translate the given Python class into Kotlin while preserving functionality.

CODE :



Observation :

- Python uses __init__ while Kotlin uses a primary constructor.
- Kotlin requires explicit typing (String, Int), whereas Python is dynamically typed.
- Both use classes, objects, and methods similarly, but Kotlin enforces stronger type safety.

(b) Compare object-oriented features of both languages.

Prompt:

Compare the object-oriented programming features of Python and Kotlin using a simple class example in each language. Show code, output, and a short observation.

## CODE :


## Observation :

- Kotlin offers a more **structured, type-safe, and strict** OOP model, while Python provides a **more flexible and dynamic** approach. Both support encapsulation, inheritance, and polymorphism, but Kotlin enforces correctness at compile time.