

# Gen AI

## Assignment 2- MoE

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Github: <https://github.com/PES2UG23CS171/GenAI--assignment2>

### Technical Query:

```
# Test 1: Technical Query
response = process_request("My python script is throwing an IndexError on line 5.")
''' NAME- Dhrushaj Achar   SRN- PES2UG23CS171   CLASS- 6C CSE
'''

=====
User Query: My python script is throwing an IndexError on line 5.
=====
Router Decision: 'technical' expert selected
=====
Technical Expert Response:

### Problem Diagnosis
The error message `IndexError` typically indicates that your Python script is attempting to access an element in a list or other sequence that does not exist. In your case, this is happening on line 5 of your script.

### Root Cause
Without the actual code, it's difficult to pinpoint the exact cause. However, common reasons for an `IndexError` include:
- Attempting to access an index that is out of range (e.g., trying to access `my_list[5]` when `my_list` only has 5 elements, indexed from 0 to 4).
- Incorrectly assuming the length of a list or sequence.
- Failure to handle cases where a list or sequence might be empty.

### Solution/Fix
To fix the issue, you need to ensure that you're not trying to access an index that doesn't exist. Here's a general example of how to safely access elements in a list:

```python
# Example list
my_list = [1, 2, 3, 4, 5]

# Incorrect way - might throw IndexError if index is out of range
...
2. Ensure that any indexing operation is within the valid range of the list or sequence being accessed.
3. Consider using `try-except` blocks or checking the length of the list before attempting to access it to prevent `IndexError`.

If you provide the actual code around line 5, a more precise fix can be suggested.
Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings...
```

Full response:

#### ### Problem Diagnosis

The error message `IndexError` typically indicates that your Python script is attempting to access an element in a list or other sequence that does not exist. In your case, this is happening on line 5 of your script.

#### ### Root Cause

Without the actual code, it's difficult to pinpoint the exact cause. However, common reasons for an `IndexError` include:

- Attempting to access an index that is out of range (e.g., trying to access `my\_list[5]` when `my\_list` only has 5 elements, indexed from 0 to 4).
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### ### Solution/Fix

To fix the issue, you need to ensure that you're not trying to access an index that doesn't exist. Here's a general example of how to safely access elements in a list:

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3. Consider using `try-except` blocks or checking the length of the list before attempting to access it to prevent `IndexError`.

If you provide the actual code around line 5, a more precise fix can be suggested.

## Billing query

```
Test 2: Billing Query

The router should classify this as "billing" and respond with empathetic, policy-driven support.

# Test 2: Billing Query
response = process_request("I was charged twice for my subscription this month.")
''' NAME- Dhrushaj Achar   SRN- PES2UG23CS171   CLASS- 6C CSE
'''
'''

[19] ✓ 1.0s Python

=====
📁 User Query: I was charged twice for my subscription this month.
=====
📁 Router Decision: 'billing' expert selected
=====
📁 Billing Expert Response:

I can imagine how frustrating it must be to see duplicate charges on your account, and I'm here to help you resolve this issue as quickly as possible.

According to our billing policy, Section 3, Article 2, we have a strict protocol in place to prevent duplicate charges. However, in rare cases, technical errors can occur, and we apologize for any inconvenience this has caused. Our policy also states that we will promptly refund any unauthorized or duplicate charges upon verification.

To resolve this issue, I'll need to verify the duplicate charges with our billing team. I'll guide you through the next steps:
1. I'll request your account information to locate the duplicate charges.
2. I'll escalate this issue to our billing team for a thorough review.
3. Once verified, we will process a refund for the duplicate charge within 3-5 business days.
Please let me know if you have any questions or concerns, and I'll be happy to address them.
```

Full response:

I can imagine how frustrating it must be to see duplicate charges on your account, and I'm here to help you resolve this issue as quickly as possible.

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Please let me know if you have any questions or concerns, and I'll be happy to address them.

## General Query

```
# Test 3: General Query
response = process_request("Hey, how are you doing today?")
''' NAME- Dhrushaj Achar    SRN- PES2UG23CS171    CLASS- 6C CSE
'''
...

[20] ✓ 0.3s Python

=====
📬 User Query: Hey, how are you doing today?
=====
🔗 Router Decision: 'general' expert selected
=====
🛠️ General Expert Response:

I'm doing great, thanks for asking. It's always nice to start the day with a friendly conversation. How about you? How's your day going so far? Is there something I can help you with or would you like to
```

Full response:

I'm doing great, thanks for asking. It's always nice to start the day with a friendly conversation. How about you? How's your day going so far? Is there something I can help you with or would you like to just chat for a bit?

## Tool Use query

```
# Test 4: Bonus - Tool Use Expert (Bitcoin Price)
response = process_request("What is the current price of Bitcoin?")
''' NAME- Dhrushaj Achar    SRN- PES2UG23CS171    CLASS- 6C CSE
'''
...

[21] ✓ 0.1s

...

=====
📬 User Query: What is the current price of Bitcoin?
=====
🔗 Router Decision: 'tool' expert selected
=====
🛠️ Tool Use: Fetching data for 'bitcoin'...

📊 Bitcoin Price Data (Mock):
Price: $67,432.15
24h Change: +2.3%
Market Cap: $1.32T
```