MeWayWise

A Travel Mode Recommendation Tool for Inclusivity and Equity

AI Hackathon: Tool use in LM Studio

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Dec 8

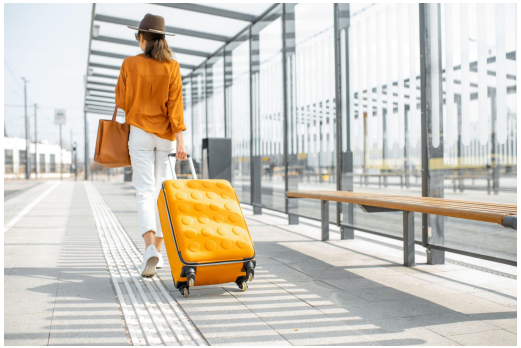
01

Idea

Inclusive transit system is needed

Efficient and equitable transit options are fundamental to creating inclusive cities where everyone, regardless of their circumstances, can access opportunities and services. **Inclusive transit** systems are essential for:

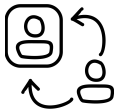
People with physical challenges



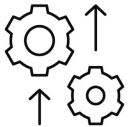
People with unique preference

Special environment

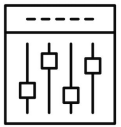
Why AI can help



Personal Recommendation: analyze individual preference



Dynamic adaptation: incorporate real-time data from multiple data sources



Efficiency : leverage both local datasets and machine learning models

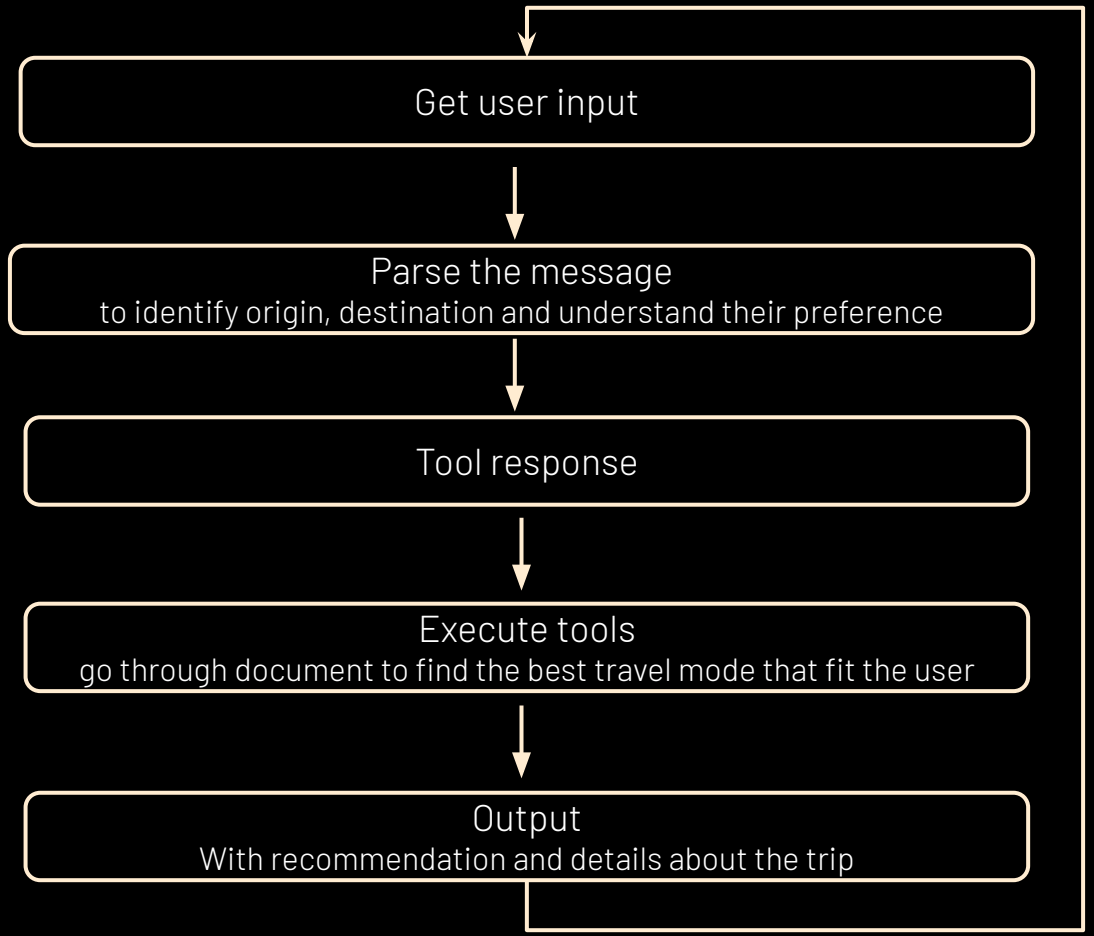
02

Demo

Model : llama-3.2-3b-qnn

https://github.com/yanchaomcp/AI_Hackathon_2024/demo_basic.py

Frame


Get user input
Parse the message
to identify origin, destination and understand their preference
Tool response
Execute tools
go through document to find the best travel mode that fit the user
Output
With recommendation and details about the trip

File Edit Selection View Go Run ··· Search

Welcome | demo_basic.py | demo.py

C: > Users > qc_wo > Desktop > demo_basic.py > ...

```
146  def chat_with_llm():
147      print("Assistant: Hi! I can help you plan your travel routes based on your preferences.")
148      print("Let me collect a few details. (Type 'quit' at any time to exit.)")
149
150      while True:
151          # Collect origin
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

python

```
Assistant: Hi! I can help you plan your travel routes based on your preferences.
Let me collect a few details. (Type 'quit' at any time to exit.)

What is your starting point (origin)? central park
What is your destination? nyu tandon
What is your primary travel preference?
- 'lowest_cost'
- 'minimal_walking'
- 'shortest_time'
- 'least_environmental_cost'
Enter one of the above options: shortest_time
Fetching travel recommendation... -

Assistant: The best travel mode from central park to nyu tandon is 'Drive'.
Details for your trip:
Details for your trip:
- Time: 24 minutes
- Cost: $12.4
- Emissions: 19.49 kg CO2
- Walking Distance: 169 meters
- Emissions: 19.49 kg CO2
- Walking Distance: 169 meters


Fetching mode choice explaination... -

Fetching mode choice explaination... -
```

File Edit Selection View Go Run ···

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```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

powershell

```
Fetching mode choice explaination... -

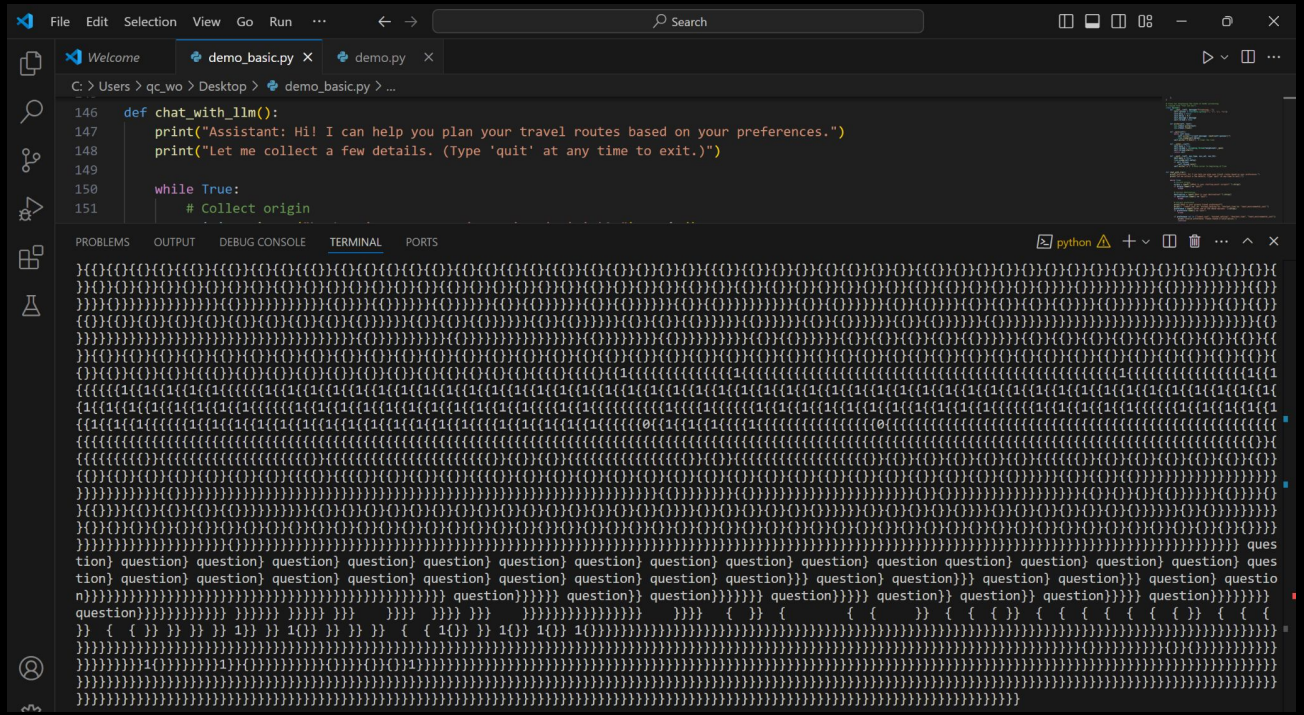
Fetching mode choice explaination... -



What is your starting point (origin)? central Park
What is your starting point (origin)? central Park
What is your destination? NYU Tandon
What is your destination? NYU Tandon
What is your primary travel preference?
What is your primary travel preference?
- 'lowest_cost'
- 'minimal_walking'
- 'shortest_time'
- 'least_environmental_cost'
Enter one of the above options: lowest_cost
Fetching travel recommendation... -

Assistant: The best travel mode from central Park to NYU Tandon is 'Public_transit'.
Details for your trip:
- Time: 72 minutes
- Cost: $4.68
- Emissions: 4.14 kg CO2
- Walking Distance: 608 meters
```

Parameters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Welcome
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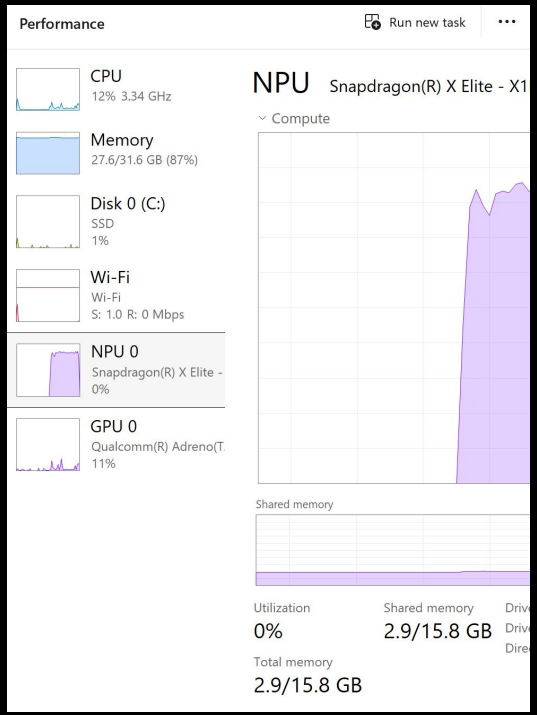
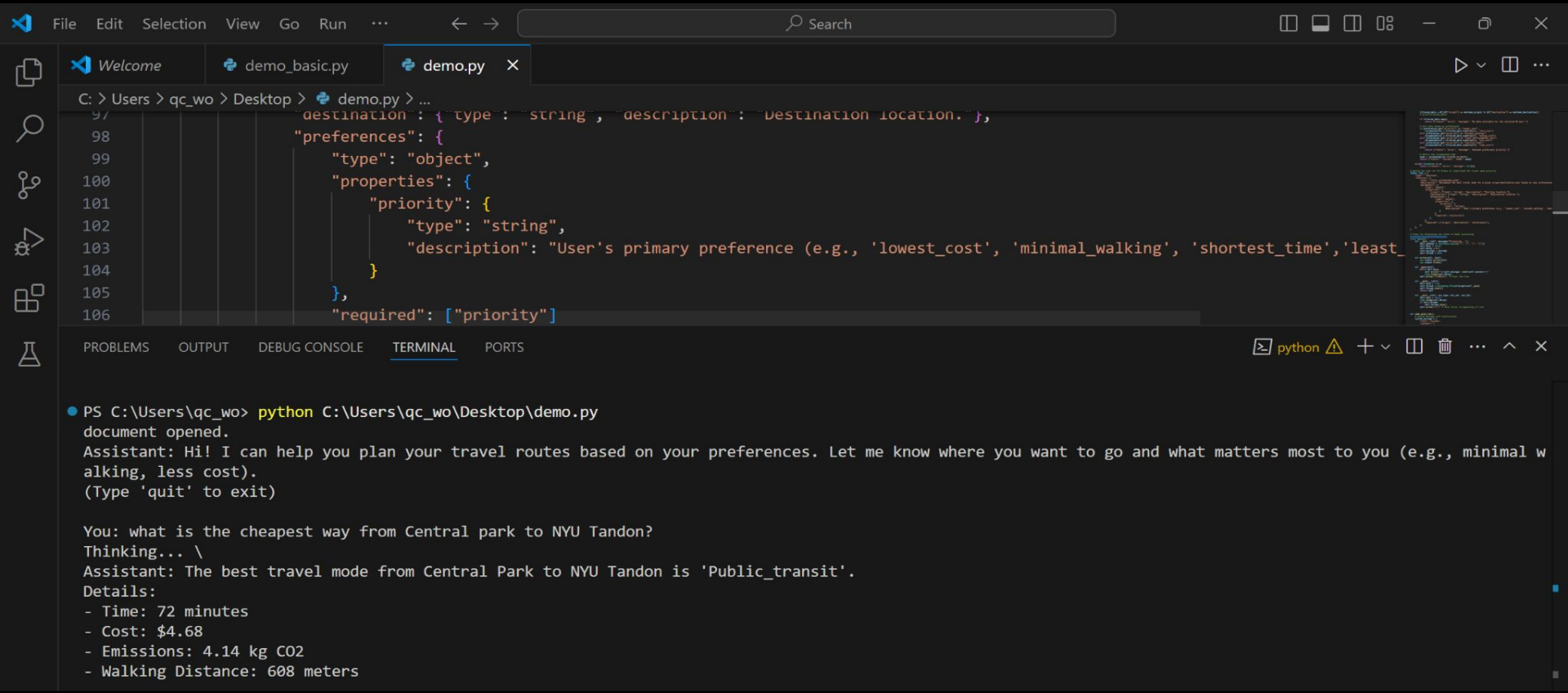

Performance
Run new task
CPU
12% 3.34 GHz
Memory
27.6/31.6 GB (87%)
Disk 0 (C:)
SSD
1%
Wi-Fi
Wi-Fi
S: 1.0 R: 0 Mbps
NPU 0
Snapdragon(R) X Elite -
0%
GPU 0
Qualcomm(R) Adreno(T
11%
NPU
Snapdragon(R) X Elite - X1
Compute
Shared memory
Utilization
0%
Shared memory
2.9/15.8 GB
Total memory
2.9/15.8 GB

03

More Demo

Model : qwen2.5-coder-32b

https://github.com/yanchaomcp/AI_Hackathon_2024/demo.py


File Edit Selection View Go Run ···
Search
Welcome
demo_basic.py
demo.py
C: > Users > qc_wo > Desktop > demo.py > ...
"destination": { "type": "string", "description": "Destination location." },
"preferences": {
"type": "object",
"properties": {
"priority": {
"type": "string",
"description": "User's primary preference (e.g., 'lowest_cost', 'minimal_walking', 'shortest_time','least_
}
},
"required": ["priority"]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
PS C:\Users\qc_wo> python C:\Users\qc_wo\Desktop\demo.py
document opened.
Assistant: Hi! I can help you plan your travel routes based on your preferences. Let me know where you want to go and what matters most to you (e.g., minimal w
alking, less cost).
(Type 'quit' to exit)
You: what is the cheapest way from Central park to NYU Tandon?
Thinking... \
Assistant: The best travel mode from Central Park to NYU Tandon is 'Public_transit'.
Details:
- Time: 72 minutes
- Cost: $4.68
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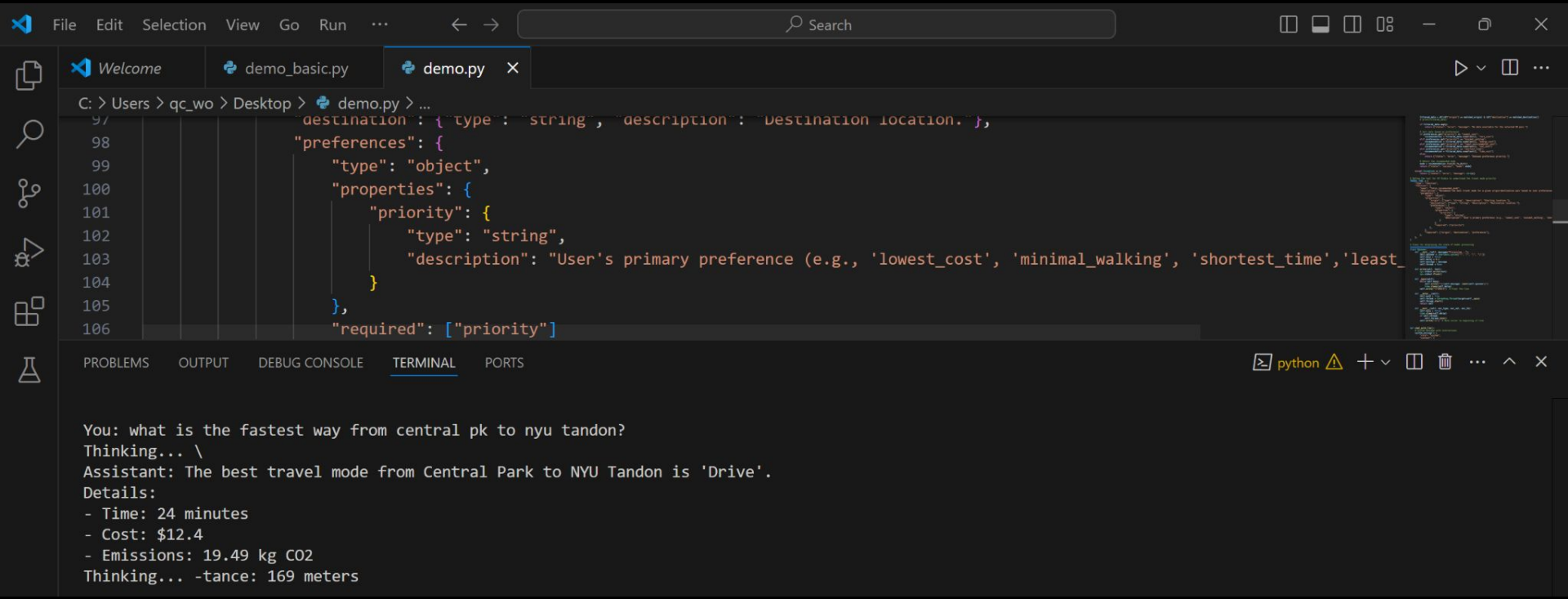
- Walking Distance: 608 meters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},
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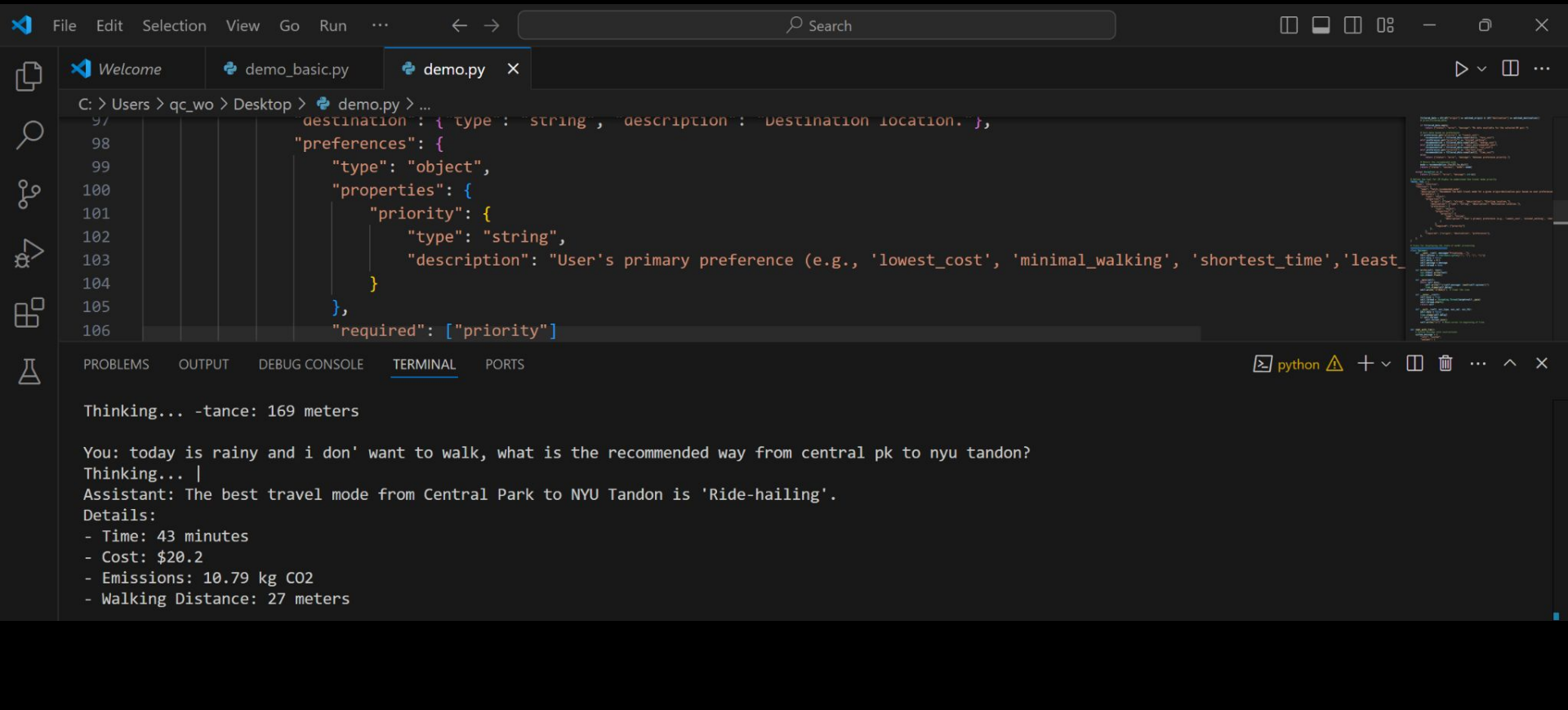
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
You: what is the fastest way from central pk to nyu tandon?
Thinking... \
Assistant: The best travel mode from Central Park to NYU Tandon is 'Drive'.
Details:
- Time: 24 minutes
- Cost: $12.4
- Emissions: 19.49 kg CO2
Thinking... -tance: 169 meters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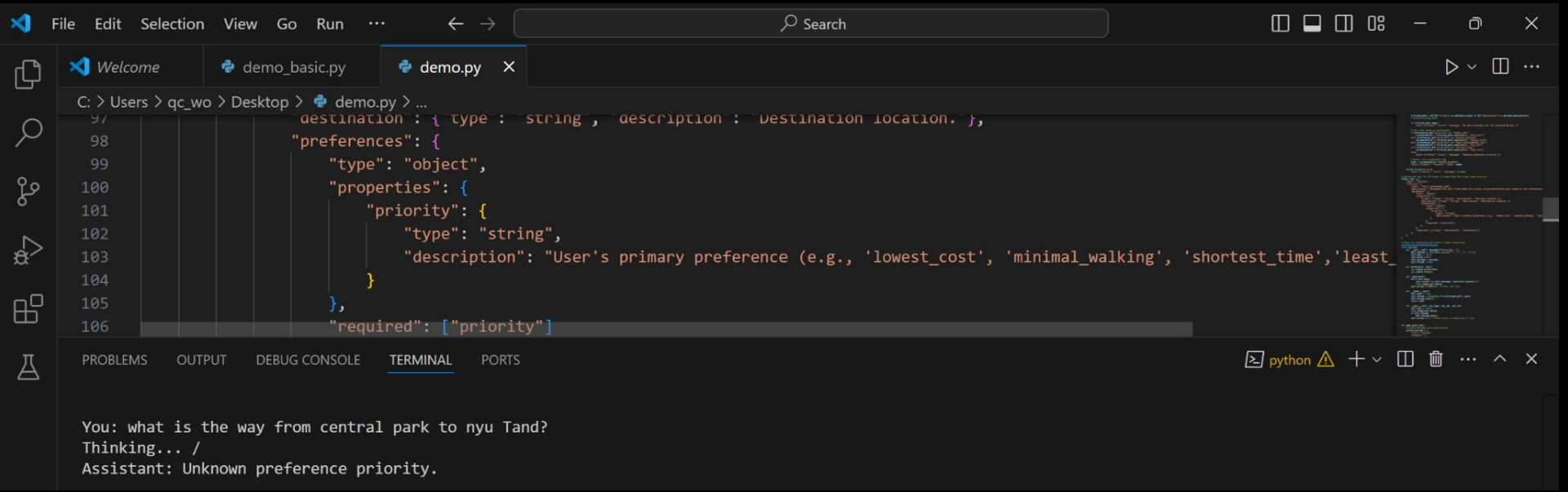
}
},
"required": ["priority"]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
Thinking... -tance: 169 meters
You: today is rainy and i don' want to walk, what is the recommended way from central pk to nyu tandon?
Thinking...
Assistant: The best travel mode from Central Park to NYU Tandon is 'Ride-hailing'.
Details:
- Time: 43 minutes
- Cost: $20.2
- Emissions: 10.79 kg CO2
- Walking Distance: 27 meters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"preferences": {
"type": "object",
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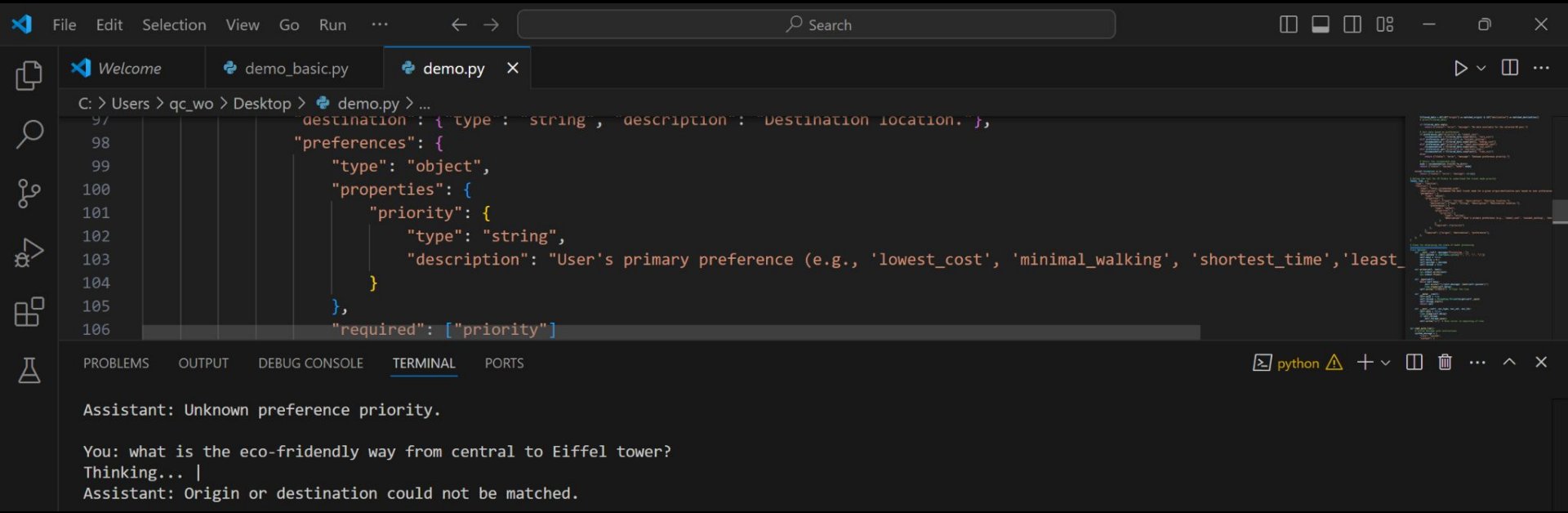
"type": "string",
"description": "User's primary preference (e.g., 'lowest_cost', 'minimal_walking', 'shortest_time','least_
}
},
"required": ["priority"]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
You: what is the way from central park to nyu Tand?
Thinking... /
Assistant: Unknown preference priority.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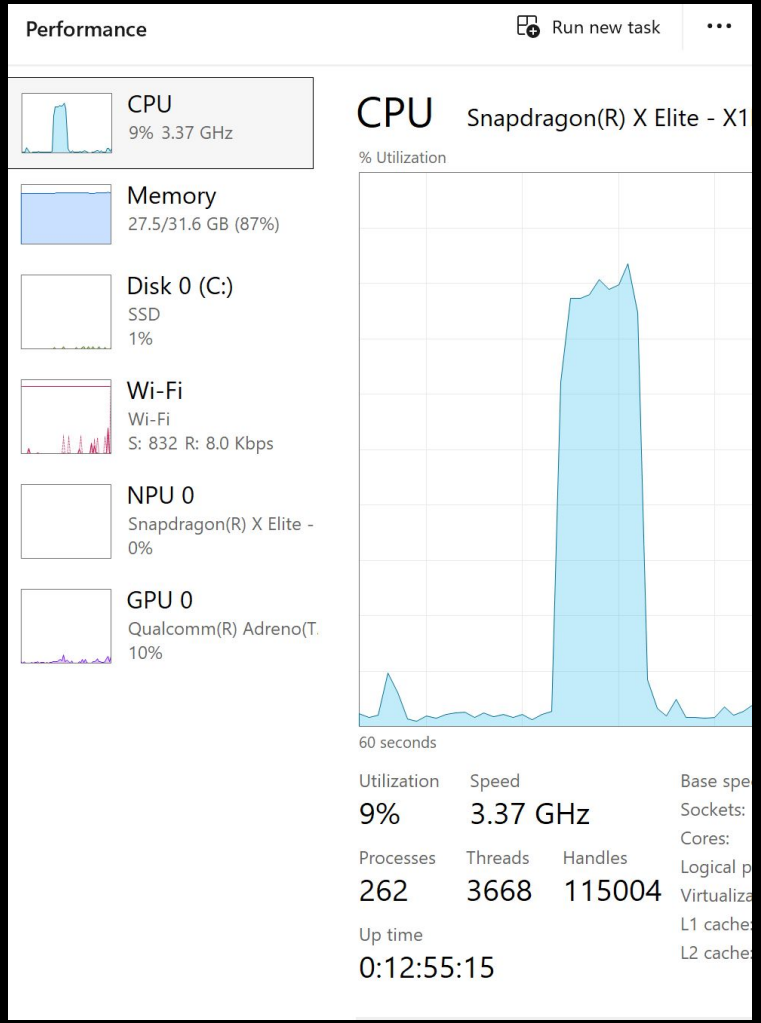
}
},
"required": ["priority"]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
python
Assistant: Unknown preference priority.
You: what is the eco-fridendly way from central to Eiffel tower?
Thinking...
Assistant: Origin or destination could not be matched.

Parameters


Performance
Run new task
CPU
9% 3.37 GHz
Memory
27.5/31.6 GB (87%)
Disk 0 (C:)
SSD
1%
Wi-Fi
Wi-Fi
S: 832 R: 8.0 Kbps
NPU 0
Snapdragon(R) X Elite -
0%
GPU 0
Qualcomm(R) Adreno(T
10%
CPU
Snapdragon(R) X Elite - X1
% Utilization
60 seconds
Utilization
9%
Speed
3.37 GHz
Processes
262
Threads
3668
Handles
115004
Up time
0:12:55:15
Base spe
Sockets:
Cores:
Logical p
Virtualiza
L1 cache:
L2 cache:

04

Next Step

Real-time feedback with prediction

1. **Real-time transit API queries:** different travel services, time/money/CO2 cost

   Possible processing: query multiple source and transform to form a comprehensive document loading to local.

2. **Real-time environment :** e.g, weather, traffic

   Possible output: It will rain in 2 hours, you probably need to use public transit instead of citi-bike today.
   Possible output: An accident will cause subway Route A delay at 8:00am, you probably want to leave early at 7:45am.

3. **Classification models to predict :** plan-ahead for different users

   Possible output: plan for users without specific order based on their historical preferences.

Thank you!