

LANGCHAIN_CATEGORY

output

claude_solution.py

gemini_solution.py

gemini_solution2.py

openai_solution.py

spend_categorized.csv

venv

bin

include

lib

pyvenv.cfg

check_gemini.py

main.py

my_creditcard_stmt.csv

README.md

requirements.txt

OUTLINE

```
main.py > ...
4 from langchain_google_genai import GoogleGenerativeAI
5 from langchain.prompts import PromptTemplate
6 from langchain.chains import SimpleSequentialChain
7 from langchain.chains import LLMChain
8
9 PROMPT_TEMPLATE_TEXT = """
10 Generate a table in CSV format from the following bank statement data.
11 Add a column called "Category" and populate it with one of the following values:
12 [Groceries, Transport, Entertainment, Shopping, Utilities, Eating Out, Unknown]
13 {statement}
14 """
15 CODING_TEMPLATE_TEXT = """
16 First, hard-code this data as a Python variable called 'items', with the category name and value.
17 Then write a Python script to sum this data by 'Category' and print the results.
18 {categorized_transactions}
19 """
20
21 # Google Gemini LLM
22 llm = GoogleGenerativeAI(model="gemini-pro", max_output_tokens=1024, google_api_key="xxxx")
23
24 # Create the individual prompt templates.
25 categorization_template = PromptTemplate.from_template(PROMPT_TEMPLATE_TEXT)
26 coding_template = PromptTemplate.from_template(CODING_TEMPLATE_TEXT)
27
28 # Create the chains.
29 categorization_chain = LLMChain(llm=llm, prompt=categorization_template)
30 coding_chain = LLMChain(llm=llm, prompt=coding_template)
31
32 # Join them into a sequential chain.
33 overall_chain = SimpleSequentialChain(
34     chains=[categorization_chain, coding_chain], verbose=True
35 )
36
37 # Load the bank statement data.
38 with open("my_creditcard_stmt.csv", "r") as f:
39     bank_statement_data = f.read()
40
41 # Run the chain using the bank statement data as input.
42 overall_chain.run(bank_statement_data)
43
```

✓ LANGCHAIN... [📄] [📁] [🔄] [📄]

✓ output

🔗 claudesolution.py

🔗 geminisolution.py

🔗 geminisolution2.py

🔗 openai_solution.py

📄 spend_categorized.csv

✓ venv

> bin

> include

> lib

⚙️ pyvenv.cfg

🔗 check_gemini.py

🔗 main.py





📄 my_creditcard_stmt.csv

📄 README.md






📄 requirements.txt

📄 my_creditcard_stmt.csv







```
1 03/23,DOMINO'S 6345 636-385-0398 KS,8.72
2 03/27,K C INDIA MART OVERLAND PARK KS,80.17
3 03/26,WAL-MART #0577 OLATHE KS,13.14
4 03/28,CHIPOTLE 3318 OLATHE KS,16.3
5 03/29,"EVERGY ""METRO 888-471-5275 M0",197.18
6 04/02,BURGER KING #5785 https://prod. KS,8.92
7 04/03,COSTCO WHSE #0369 OVERLAND PARK KS,4.34
8 04/03,COSTCO WHSE #0369 OVERLAND PARK KS,144.31
9 04/07,DOMINO'S 6345 636-385-0398 KS,8.72
10 04/09,PAYPAL *ILEADTAXLLC 402-935-7733 CA,69.95
11 04/08,SPECTRUM 855-707-7328 M0,29.99
12 04/08,COSTCO GAS #0369 OVERLAND PARK KS,30.48
13 04/09,K C INDIA MART OVERLAND PARK KS,88.79
14 04/09,STAPLES 00118471 OVERLAND PARK KS,3.52
15 04/11,WM SUPERCENTER #577 OLATHE KS,30.36
16 04/12,HEN HOUSE #34 OVERLAND PARK KS,5.46
17 04/12,TAJ GROCERS OVERLAND PARK KS,21.92
18 04/15,BURGER KING #5785 https://prod. KS,3.27
19 04/15,BURGER KING #5785 https://prod. KS,3.27
20 04/16,"EVERGY ""METRO 888-471-5275 M0",123.07
21 04/18,COLLEGE PARK FAMILY CA 913-469-0503 KS,222.14
22 04/19,OLIVE GARDEN 0021535 OLATHE KS,21.66
23 04/21,COSTCO WHSE #0369 OVERLAND PARK KS,31.85
24 04/21,WM SUPERCENTER #1599 OVERLAND PARK KS,16.33
25 04/21,TAJ GROCERS OVERLAND PARK KS,13.12
```

LANGCHAIN...    

output

-  `claude_solution.py`
-  `gemini_solution.py`
-  `gemini_solution2.py`
-  `openai_solution.py`
-  `spend_categorized.csv`

venv

- > bin
- > include
- > lib
-  `pyvenv.cfg`
-  `check_gemini.py`
-  `main.py`
-  `my_creditcard_stmt.csv`
-  `README.md`
-  `requirements.txt`

output >  `spend_categorized.csv`

```
1 Date,Description,Amount,Category
2 03/23,DOMINO'S 6345 636-385-0398 KS,8.72,Eating Out
3 03/27,K C INDIA MART OVERLAND PARK KS,80.17,Groceries
4 03/26,WAL-MART #0577 OLATHE KS,13.14,Shopping
5 03/28,CHIPOTLE 3318 OLATHE KS,16.3,Eating Out
6 03/29,"EVERGY ""METRO 888-471-5275 MO",197.18,Utilities
7 04/02,BURGER KING #5785 https://prod. KS,8.92,Eating Out
8 04/03,COSTCO WHSE #0369 OVERLAND PARK KS,4.34,Shopping
9 04/03,COSTCO WHSE #0369 OVERLAND PARK KS,144.31,Shopping
10 04/07,DOMINO'S 6345 636-385-0398 KS,8.72,Eating Out
11 04/09,PAYPAL *ILEADTAXLLC 402-935-7733 CA,69.95,Unknown
12 04/08,SPECTRUM 855-707-7328 MO,29.99,Utilities
13 04/08,COSTCO GAS #0369 OVERLAND PARK KS,30.48,Transport
14 04/09,K C INDIA MART OVERLAND PARK KS,88.79,Groceries
15 04/09,STAPLES 00118471 OVERLAND PARK KS,3.52,Shopping
16 04/11,WM SUPERCENTER #577 OLATHE KS,30.36,Shopping
17 04/12,HEN HOUSE #34 OVERLAND PARK KS,5.46,Eating Out
18 04/12,TAJ GROCERS OVERLAND PARK KS,21.92,Groceries
19 04/15,BURGER KING #5785 https://prod. KS,3.27,Eating Out
20 04/15,BURGER KING #5785 https://prod. KS,3.27,Eating Out
21 04/16,"EVERGY ""METRO 888-471-5275 MO",123.07,Utilities
22 04/18,COLLEGE PARK FAMILY CA 913-469-0503 KS,222.14,Unknown
23 04/19,OLIVE GARDEN 0021535 OLATHE KS,21.66,Eating Out
24 04/21,COSTCO WHSE #0369 OVERLAND PARK KS,31.85,Shopping
```

```
● (venv) (base) dechamma@192 langchain_category % python3 main.py
/Users/dechamma/Documents/langchain_category/venv/lib/python3.12/site-packages/langchain_core/_api/deprecation.py:119: LangChainDeprecationWarning: The class `LLMChain` was deprecated in L
angChain 0.1.17 and will be removed in 0.3.0. Use RunnableSequence, e.g., `prompt | llm` instead.
  warn_deprecated()
/Users/dechamma/Documents/langchain_category/venv/lib/python3.12/site-packages/langchain_core/_api/deprecation.py:119: LangChainDeprecationWarning: The method `Chain.run` was deprecated in
langchain 0.1.0 and will be removed in 0.2.0. Use invoke instead.
  warn_deprecated()
```

```
> Entering new SimpleSequentialChain chain...
Date,Description,Amount,Category
03/23,DOMINO'S 6345 636-385-0398 KS,8.72,Eating Out
03/27,K C INDIA MART OVERLAND PARK KS,80.17,Groceries
03/26,WAL-MART #0577 OLATHE KS,13.14,Shopping
03/28,CHIPOTLE 3318 OLATHE KS,16.3,Eating Out
03/29,"EVERGY ""METRO 888-471-5275 MO",197.18,Utilities
04/02,BURGER KING #5785 https://prod. KS,8.92,Eating Out
04/03,COSTCO WHSE #0369 OVERLAND PARK KS,4.34,Shopping
04/03,COSTCO WHSE #0369 OVERLAND PARK KS,144.31,Shopping
04/07,DOMINO'S 6345 636-385-0398 KS,8.72,Eating Out
04/09,PAYPAL *ILEADTAXLLC 402-935-7733 CA,69.95,Unknown
04/08,SPECTRUM 855-707-7328 MO,29.99,Utilities
04/08,COSTCO GAS #0369 OVERLAND PARK KS,30.48,Transport
04/09,K C INDIA MART OVERLAND PARK KS,88.79,Groceries
04/09,STAPLES 00118471 OVERLAND PARK KS,3.52,Shopping
04/11,WI SUPERCENTER #577 OLATHE KS,30.36,Shopping
04/12,HEN HOUSE #34 OVERLAND PARK KS,5.46,Eating Out
04/12,TAJ GROCERS OVERLAND PARK KS,21.92,Groceries
04/15,BURGER KING #5785 https://prod. KS,3.27,Eating Out
04/15,BURGER KING #5785 https://prod. KS,3.27,Eating Out
04/16,"EVERGY ""METRO 888-471-5275 MO",123.07,Utilities
04/18,COLLEGE PARK FAMILY CA 913-469-0503 KS,222.14,Unknown
04/19,OLIVE GARDEN 0021535 OLATHE KS,21.66,Eating Out
04/21,COSTCO WHSE #0369 OVERLAND PARK KS,31.85,Shopping
04/21,WI SUPERCENTER #1599 OVERLAND PARK KS,16.33,Shopping
04/21,TAJ GROCERS OVERLAND PARK KS,13.12,Groceries
```

```

```python
items = [
 {'Category': 'Eating Out', 'Amount': 8.72},
 {'Category': 'Groceries', 'Amount': 80.17},
 {'Category': 'Shopping', 'Amount': 13.14},
 {'Category': 'Eating Out', 'Amount': 16.3},
 {'Category': 'Utilities', 'Amount': 197.18},
 {'Category': 'Eating Out', 'Amount': 8.92},
 {'Category': 'Shopping', 'Amount': 4.34},
 {'Category': 'Shopping', 'Amount': 144.31},
 {'Category': 'Eating Out', 'Amount': 8.72},
 {'Category': 'Unknown', 'Amount': 69.95},
 {'Category': 'Utilities', 'Amount': 29.99},
 {'Category': 'Transport', 'Amount': 30.48},
 {'Category': 'Groceries', 'Amount': 88.79},
 {'Category': 'Shopping', 'Amount': 3.52},
 {'Category': 'Shopping', 'Amount': 30.36},
 {'Category': 'Eating Out', 'Amount': 5.46},
 {'Category': 'Groceries', 'Amount': 21.92},
 {'Category': 'Eating Out', 'Amount': 3.27},
 {'Category': 'Eating Out', 'Amount': 3.27},
 {'Category': 'Utilities', 'Amount': 123.07},
 {'Category': 'Unknown', 'Amount': 222.14},
 {'Category': 'Eating Out', 'Amount': 21.66},
 {'Category': 'Shopping', 'Amount': 31.85},
 {'Category': 'Shopping', 'Amount': 16.33},
 {'Category': 'Groceries', 'Amount': 13.12},
]

Sum the amount by category
category_totals = {}
for item in items:
 category = item['Category']
 amount = item['Amount']
 if category not in category_totals:
 category_totals[category] = 0
 category_totals[category] += amount

Print the results
for category, total in category_totals.items():
 print(f'{category}: ${total:.2f}')
...

```

**Output:**

```
'''
Eating Out: $106.32
Groceries: $212.89
Shopping: $202.62
Transport: $30.48
Utilities: $350.24
Unknown: $292.09
'''
> Finished chain.
```