

Common Libraries need to be installed:

>pandas

>langchain

>streamlit(framework)

>numpy

>Huggingface_hub

IF YOU ENCOUNTERED FOLLOWING ERROR WHILE EXECUTING THE CODE “install the following libraries”:

1. FILE NOT FOUND:

>Install openpyxl library

>Make sure that xcel sheet's path is provided correctly :

```
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\io\excel\_base.py:1563,
e_kwargs)
  1561     ext = "xls"
  1562 else:
  ...
--> 872     handle = open(handle, ioargs.mode)
      873     handles.append(handle)
      875 # Convert BytesIO or file objects passed with an encoding

FileNotFoundError: [Errno 2] No such file or directory: 'D:\\problems.xlsx'
```

2.LANGCHAIN EXPERIMENTAL:

> Install langchain_experimental package

```
-----  
ModuleNotFoundError                                Traceback (most recent call last)  
Cell In[3], line 2  
      1 import pandas as pd  
----> 2 from langchain_experimental.agents import create_csv_agent  
      3 from langchain.llms import Ollama  
      4 import tempfile  
  
ModuleNotFoundError: No module named 'langchain_experimental'
```

3. AGENT ERROR:

>Install tabulate package

```
agent.agent.llm_chain.prompt.template
⊗ 0.2s

-----
NameError                                Traceback (most recent call last)
Cell In[5], line 1
----> 1 agent.agent.llm_chain.prompt.template

NameError: name 'agent' is not defined
```

TRAINING THE MODEL WITH XCEL SHEET(orca-mini:3b)

1)Trained with Giving input as unformatted manner:

input:```I have root cause "Replace the DCV assembly and maintain the water level " what is key for this cause based on the above table```

Excepted output: [Discharge check valve (DCV)

the issue may be related to the DCV assembly. On the other hand, if the product is a washing machine and the water level drops significantly, then maintenance of the water level may be necessary.

In any case, I can help you identify the key factor and provide additional assistance based on your specific needs and queries. Let me know if you need any further help!

' Hello! I am the chat assistant for Elgi. Based on the given table, I can help you understand the key factors that may be causing the issue "Replace the DCV assembly and maintain the water level" in the context of the Elgi products. \n\nThe table indicates that there are two possible causes for this issue: either the DCV assembly needs to be replaced or the water level needs to be maintained. To determine which is the key factor, we need more information about the specific product and its symptoms. \n\nFor example, if the product in question is a refrigerator, and it suddenly stops cooling completely, then the issue may be related to the DCV assembly. On the other hand, if the product is a washing machine and the water level drops significantly, then maintenance of the water level may be necessary. \n\nIn any case, I can help you identify the key factor and provide additional assistance based on your specific needs and queries. Let me know if you need any further help!'

2)Fed the input in formatted manner:

Input: Water leakage is found out in the compressor - what to do

Expected output: Continuous or intermittent water leakage during running

```
Based on the given table, water leakage is found out in the compressor. The user should follow the procedure mentioned below to address this issue:  
1. Check physically for the water leakage. Look for any holes or leaks from the airend side vent holes or from the discharge vent holes.  
2. If there is water leakage observed after shutdown, check the valve condition and its function. From the airend discharge vent holes, if there is water leakage, remove the strainer/orifice and check for any dust contamination or blockage.  
3. If there is no water from the constant drain valve (Units with CDV drain system), check for any blockages in the sump ADV drain or in the discharge line from the sump ADV.  
4. Based on the given table, it seems that there is a water level high in the tank. However, this information is not mentioned in the table. Therefore, it would be helpful to know the exact location and extent of the water level rise to determine the cause of the issue.
```

3)Loaded the xcel sheet into model using pandas lib:

Input: I have a symptom of 'water level high in tank,' what is the corresponding confirmation?

Expected output: No water from constant drain valve (Units with CDV drain system) No water from sump ADV drain(Units with sump ADV)

Output :

```
Python  
1. The corresponding confirmation for the given symptom of "water level high in tank" is that there is a problem with the water level in the tank.  
  
2. If the user wants to know the specific location where the problem occurred, the confirmation would be the name of the tank or the area where the tank is located.
```

4)Loaded the xcel sheet using embeddings:

Input: how many categories of symptoms are there in the table?

output:

```
I'm sorry, but I cannot provide you with a response as I am an AI language model and do not have the ability to understand human language.
```

5) converted the xcel sheet into csv file and fed into the model:

Got error in encoding the csv data
REQUEST FOR API KEY

REFERENCE:<https://www.youtube.com/watch?v=nr-mDSi9LxA&t=183s>

6)Converted the csv file into python dictionary prompt is made:

Input: I have a symptom of water leakage from vent holes while running what is corresponding confirmation answer the question from feeded data?

REFERENCE:<https://www.youtube.com/watch?v=nr-mDSi9LxA&t=177s>

Output:

```
> Entering new AgentExecutor chain...  
I'm sorry, but without more specific information about the symptoms you are experiencing, it is difficult to provide a clear answer to your question. Could you please provide more details about what you are experiencing and any other relevant information, such as when the leakage started and how often it occurs? This will help me give a more accurate answer.
```

TRAINING THE MODEL WITH XCEL SHEET(orca2:7b)

1)Trained with Giving input as unformatted manner:

input:```I have root cause "Replace the DCV assembly and maintain the water level " what is key for this cause based on the above table``

Excepected output: [Discharge check valve (DCV)

```
Hello, I am a chat assistant for Elgi. I can help you find the key for the root cause "Replace the DCV assembly and maintain the water level" based on the table below:
```

```
| Root Cause | Key |
|-----|-----|
| Replace the DCV assembly | K1 |
| Maintain the water level | K2 |
| Insufficient pressure in the pump | K3 |
| Leakage in the hose | K4 |
| Low voltage or power failure | K5 |
| Worn out brushes and cylinders | K6 |
```

2)Fed the input in formatted manner (answer matched✓)

Input: Water leakage is found out in the compressor - what to do

Expected output: Continuous or intermittent water leakage during running

To answer the user's question, we need to find the symptom and the confirmation from the table that match the water leakage in the compressor. The symptom is water leakage from vent holes while running, and the confirmation is continuous or intermittent water coming out from airend side vent holes. Therefore, we can follow the procedure for this check point as given in the table:

- Check physically for the water leakage from the airend side vent holes of the compressor. If there is any water leakage, it indicates a problem with the sealing or the valve of the vent holes.
- If there is no water leakage from the airend side vent holes, check the discharge check valve and its function. The discharge check valve prevents the water from flowing back to the compressor from the discharge line. If the discharge check valve is not working properly, it can cause water leakage in the compressor.
- If there is no water leakage from the airend side vent holes and the discharge check valve, then there might be a blockage or contamination in the strainer or orifice of the constant drain system. The constant drain system drains the excess oil from the compressor after each cycle. If it is blocked or dirty, it can cause water leakage in the compressor.
- To check for any dust contamination or blockage in the constant drain system strainer/orifice, remove it and inspect it for any debris or damage. If there is any, clean it or replace it with a new one. If there is no dust contamination or blockage, then the water leakage might be coming from the sump airend discharge vent holes.
- To check for any water leakage from the sump airend discharge vent holes, remove them and inspect them for any damage or corrosion. If there is any, repair or replace them with new ones. If there is no water leakage, then the compressor might be leaking oil instead of water.
- To check for any oil leakage from the compressor, use an infrared camera or a dye test kit to locate the source of the oil leakage. Then, follow the same procedure as above to fix the problem.

3)Loaded the xcel sheet into model using pandas lib:

Input: I have a symptom of 'water level high in tank,' what is the corresponding confirmation?

Expected output: No water from constant drain valve (Units with CDV drain system) No water from sump ADV drain(Units with sump ADV

The corresponding confirmation for the symptom 'water level high in tank' is not explicitly mentioned in the given table. However, based on the information provided and the context of other symptoms, it can be inferred that the issue might be related to a malfunctioning pressure transmitter or no feedback from the pressure transmitter to the VFD.

4)Loaded the xcel sheet using embeddings:

Input: how many categories of symptoms are there in the table?

output:

NO OUPUT OBSERVED

5) converted the xcel sheet into csv file and fed into the model:

Got error in encoding the csv data
REQUEST FOR API KEY

REFERENCE:<https://www.youtube.com/watch?v=nr-mDSi9LxA&t=183s>

6) converted the xcel sheet into python dictionary

(approx 250 rows)

(answer matched✓)

>Given the entire dataset as input in dictionary format:

```
> Entering new AgentExecutor chain...
To answer the user's question, I will use the following steps:

- First, I will look at the table and find the row that matches the symptom of water leakage from vent hole after unit shutdown. This is the fourth row in the table, with Solution Id = 683, Language = English, Complaint Id = 74, and Sysmtom = Water leakage from vent hole after unit shutdown.
- Second, I will look at the column that has the label Key and check the value in the fourth column of the row. This is 0, which means the symptom is not active or resolved.
- Third, I will write a brief answer to the user based on the information from the table.

### Final answer: The corresponding value in the Key column for the symptom of water leakage from vent hole after unit shutdown is 0, which means the symptom is not active or resolved.
```


