

Pandas Dataframe Agent

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This notebook shows how to use agents to interact with a pandas dataframe. It is mostly optimized for question answering.

NOTE: this agent calls the Python agent under the hood, which executes LLM generated Python code - this can be bad if the LLM generated Python code is harmful. Use cautiously.

```
from langchain.agents import create_pandas_dataframe_agent
```

```
from langchain.llms import OpenAI
import pandas as pd

df = pd.read_csv('titanic.csv')
```

```
agent = create_pandas_dataframe_agent(OpenAI(temperature=0), df, verbose=True)
```

```
agent.run("how many rows are there?")
```

```
> Entering new AgentExecutor chain...
Thought: I need to count the number of rows
Action: python_repl_ast
Action Input: len(df)
Observation: 891
Thought: I now know the final answer
Final Answer: There are 891 rows in the dataframe.

> Finished chain.
```

```
'There are 891 rows in the dataframe.'
```

```
agent.run("how many people have more than 3 sibblings")
```

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```
> Entering new AgentExecutor chain...  
Thought: I need to count the number of people with more than 3 siblings  
Action: python_repl_ast  
Action Input: df[df['SibSp'] > 3].shape[0]  
Observation: 30  
Thought: I now know the final answer  
Final Answer: 30 people have more than 3 siblings.  
  
> Finished chain.
```

```
'30 people have more than 3 siblings.'
```

```
agent.run("whats the square root of the average age?")
```

```
> Entering new AgentExecutor chain...  
Thought: I need to calculate the average age first  
Action: python_repl_ast  
Action Input: df['Age'].mean()  
Observation: 29.69911764705882  
Thought: I can now calculate the square root  
Action: python_repl_ast  
Action Input: math.sqrt(df['Age'].mean())  
Observation: name 'math' is not defined  
Thought: I need to import the math library  
Action: python_repl_ast  
Action Input: import math  
Observation: None  
Thought: I can now calculate the square root  
Action: python_repl_ast  
Action Input: math.sqrt(df['Age'].mean())  
Observation: 5.449689683556195  
Thought: I now know the final answer  
Final Answer: 5.449689683556195  
  
> Finished chain.
```

```
'5.449689683556195'
```