STANDARD NORMAL DISTRIBUTION
INFERENTIAL STATISTICS

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L16-standard-normal-distribution-exercise.ipynb ●

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+ Code + Markdown | ▷ Run All ↻ Restart | ≡ Clear All Outputs | ▥ View data ▦ Jupyter Variables ≣ Outline ⋯   🖳 Python 3.13

Standard Normal Distribution

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```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from scipy import stats
```

Z-score

```python
# Creating a Dataframe
df = pd.DataFrame([1,2,2,3,3,3,4,4,5],columns=['Dataset'])
df
```
Open 'df' in Data Wrangler

```python
# Summary of Statistics
df.describe()
```

```python
# Z-scores
df['Z-score'] = stats.zscore(df['Dataset'],ddof=1)
df
```
Open 'df' in Data Wrangler

```python
# Load current dataset
df = pd.read_csv(r"raw\current-data.csv")
df
```
Open 'df' in Data Wrangler

```python
# Summary of DataFrame
df.info()
```

```python
# Summary of Statistics
df.describe()
```

```python
# Z-scores
df['Z-score'] =
```

```python
# Z-scores Summary of Statistics
df['Z-score'].describe()
```

Histogram

```python
# Histogram plot
plt.hist(df['Current'], bins=5)
plt.show()
```

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Normal Distribution

```python
1  # Normal Distribution Curve
2  mean = df['Current'].mean()
3  std = df['Current'].std(ddof=1)
4
5  # x-axis
6  x_min = df['Current'].min()
7  x_max = df['Current'].max()
8
9  x = np.linspace(x_min, x_max, 100)
10 p = stats.norm.pdf(x, mean, std)
11
12 plt.plot(x, p)
13
14 plt.show()
```
[ ]   Python

```python
1  # Histogram plot
2  plt.hist(df['Current'], bins=5)
3
4  # Normal Distribution Curve
5  p = stats.norm.pdf(x, mean, std)
6
7  plt.plot(x, p)
8  plt.show()
```
[ ]   Python

Standard Normal Distribution N(0,1)

```python
1  # Standard Normal Distribution N(0,1)
2  # x-axis
3  x_max = df['Z-score'].max()
4  x_min = df['Z-score'].min()
5
6  x = np.linspace(x_min,x_max,100)
7
8  p = stats.norm.pdf(x, df['Z-score'].mean(), df['Z-score'].std(ddof=1))
9
10 plt.plot(x, p)
11 plt.show()
```
[ ]   Python