**Introduction to Pandas**

Pandas is library used in data analysis by data analyst and data scientist.

**Implementation**

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Intro_to_pandas_resources/pandas_intro_movies_final.ipynb>

**Dataframe Basics**

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**Implementation**

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Dataframe_basics_resources/dataframe_basics.ipynb>

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Dataframe_basics_resources/dataframe_basics_movies_final.ipynb>

**Exercise**

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/DataFrame_Basics_Exercise/dataframe_basics_exercise_solution.ipynb>

**Read, Write Excel and CSV Files**

**Implementation**

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Read_write_to_excel_resources/read_write_csv_excel_final.ipynb>

**Exercise**

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Read_write_to_excel_exercise/read_write_csv_excel_exercise_solution.ipynb>

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**Handle Missing Data – Part 1**

Implementation

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Handling_missing_data_fillna_dropna_interpolate_resources/handling_missing_data_fillna_dropna_final.ipynb>

Exercise

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Handle_missing_data_1_Exercise/handling_missing_data_fillna_dropna_exercise_solution.ipynb>

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**Handling Missing Data – Part 2**

Implementation

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Handling_missing_data_replace_2/handling_missing_data_replace_final.ipynb>

Exercise

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Handle_missing_data_2_Exercise/handling_missing_data_replace_exercise_solution.ipynb>

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**Grouping Data**

Implementation

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Group_by_resources/pandas_group_by_final.ipynb>

Exercise

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Group_By_Exercise/pandas_group_by_exercise_solution.ipynb>

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**Data Concatenation and Merging**

Implementation

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/DataConcat_Merge_resources/pandas_concat_merge_final.ipynb>

Exercise

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Data_Concat_Merge_Exercise/pandas_concat_merge_exercise_solution.ipynb>

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**Data Visualization Using Matplotlib and Seaborn**

Implementation

<https://github.com/msirigadi/artificial-intelligence/blob/main/codebasics-io/master-machine-learning-for-datascience-and-ai/data-preprocessing-and-visualization/Matplotlib_seaborn_resources/matplotlib_seaborn_tutorial.ipynb>

