

UCT31021 – PRACTICAL FOR ARTIFICIAL INTELLIGENCE
DEPARTMENT OF ICT
FACULTY OF TECHNOLOGY
SOUTH EASTERN UNIVERSITY OF SRILANKA

Lab sheet: 11

Date: 29th of May 2025

Title: Pandas for AI

Aims:

- Work with Python Pandas Library

Task:01

1. What is panda?
Panda is a powerful python library for data manipulation and analysis. It provides an easy to use data structure which are series & dataframes.
2. Create Series in pandas.
3. Creating Dataframe in pandas.
4. Data saving in Excel.
5. Dataframe Operations
 - ✓ View First row
 - ✓ View Last row
 - ✓ View dataframe info
 - ✓ View dataframe description
 - ✓ Selecting, Filtering, select by label (already finished)
6. Create Dataframe with missing values.
7. Handling missing value using Pandas
 - ✓ Drop missing value
 - ✓ Fill missing values
 - ✓ Interpolation
8. Data Transformation
 - ✓ Renaming Columns
 - ✓ Changing Data Types
 - ✓ Creating or Modifying Column

Task:02

1. Random Dataset Creation
2. Check missing value
3. Handling missing Data
4. Transform your Data
5. Combining & Merging Dataframes
 - ✓ Concatenation
 - ✓ Merging
 - ✓ Joining
6. Group Data
 - ✓ Iterate over groups
 - ✓ Apply Aggregation
7. Calculating Summary Statistics for Group Data
 - ✓ Aggregation using groupby
 - ✓ Aggregation using pivot_table
 - ✓ Custom Aggregation using .agg()