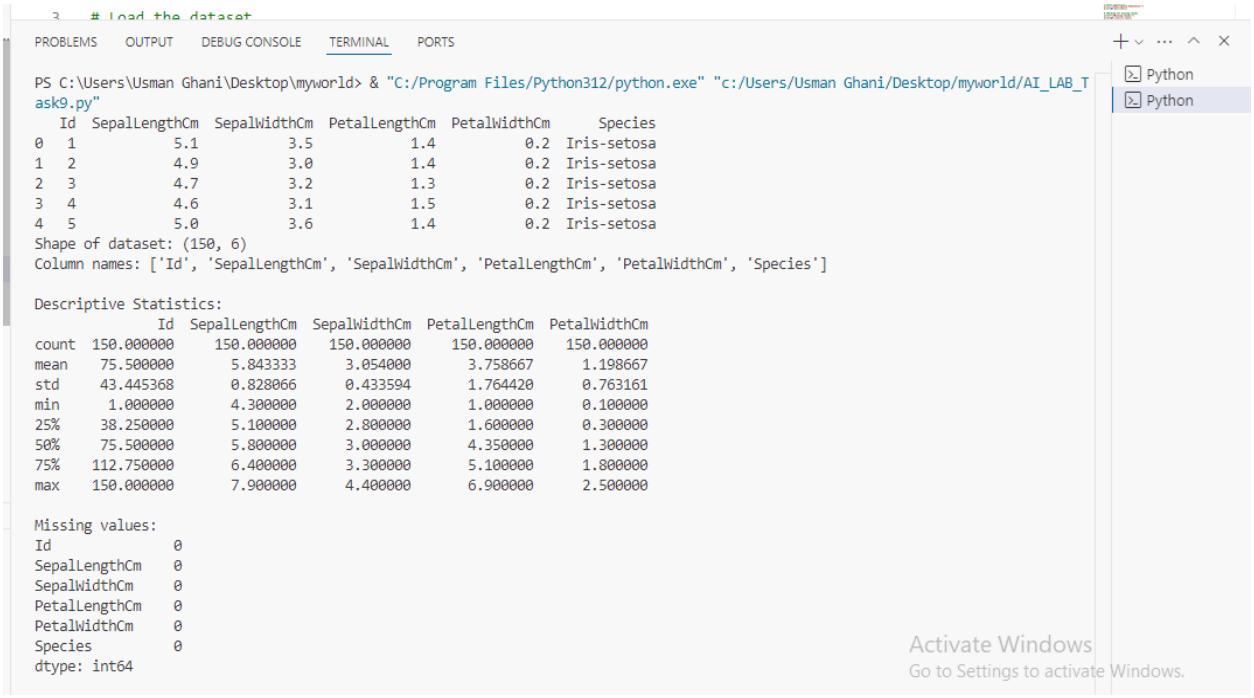
AI_LAB_Task9

- **Import pandas**:
  `import pandas as pd` imports the pandas library, used for data manipulation and analysis.
- **Load dataset**:
  `df = pd.read_csv("Iris.csv")` reads the Iris dataset from a CSV file into a pandas DataFrame called `df`.
- **Display first 5 rows**:
  `df.head()` shows the first five records to get a quick view of the data.
- **Check dataset shape**:
  `df.shape` returns the number of rows and columns in the dataset.
- **List column names**:
  `df.columns.tolist()` returns the column names as a list.
- **Descriptive statistics**:
  `df.describe()` provides summary statistics like mean, count, standard deviation, min, and max for each numerical column.
- **Check missing values**:
  `df.isnull().sum()` checks each column for missing (null) values and counts how many are in each.
- **Class distribution**:
  `df['Species'].value_counts()` shows how many samples there are for each iris species in the dataset.
- **Data types**:
  `df.dtypes` displays the data type of each column (e.g., int64, float64, object).

OUTPUT


3 # Load the dataset
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
Python
Python
PS C:\Users\Usman Ghani\Desktop\myworld> & "C:/Program Files/Python312/python.exe" "c:/Users/Usman Ghani/Desktop/myworld/AI_LAB_Task9.py"
Id SepalLengthCm SepalWidthCm PetalLengthCm PetalWidthCm Species
0 1 5.1 3.5 1.4 0.2 Iris-setosa
1 2 4.9 3.0 1.4 0.2 Iris-setosa
2 3 4.7 3.2 1.3 0.2 Iris-setosa
3 4 4.6 3.1 1.5 0.2 Iris-setosa
4 5 5.0 3.6 1.4 0.2 Iris-setosa
Shape of dataset: (150, 6)
Column names: ['Id', 'SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm', 'Species']
Descriptive Statistics:
Id SepalLengthCm SepalWidthCm PetalLengthCm PetalWidthCm
count 150.000000 150.000000 150.000000 150.000000 150.000000
mean 75.500000 5.843333 3.054000 3.758667 1.198667
std 43.445368 0.828066 0.433594 1.764420 0.763161
min 1.000000 4.300000 2.000000 1.000000 0.100000
25% 38.250000 5.100000 2.800000 1.600000 0.300000
50% 75.500000 5.800000 3.000000 4.350000 1.300000
75% 112.750000 6.400000 3.300000 5.100000 1.800000
max 150.000000 7.900000 4.400000 6.900000 2.500000
Missing values:
Id 0
SepalLengthCm 0
SepalWidthCm 0
PetalLengthCm 0
PetalWidthCm 0
Species 0
dtype: int64
Activate Windows
Go to Settings to activate Windows.

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