Enrollment No:_____ **Machine ID: _____**

Faculty of Computer Applications and Information Technology
MScIT Programme – Sem II
Mid Term Exam-2024

Subject Name: Machine Learning With Python
Date: 26/02/2024 **Time: 02:00-03:00 PM**

Set 1:

1. Load the CSV file named "data.csv" into a Pandas DataFrame. Display the first 5 rows.
2. Calculate the total number of missing values in each column of the DataFrame using Pandas.
3. Create a scatter plot using Matplotlib to visualize the relationship between the "Age" and "Weight" columns.
4. Filter the DataFrame to only include rows where the "Gender" column is 'Male'. Display the first 5 rows.
5. Group the DataFrame by the "Education" column and calculate the mean income for each education level.
6. Calculate the median of the "Height" column using NumPy.
7. Create a bar chart using Matplotlib to show the count of each unique value in the "Region" column.
8. Calculate the standard deviation of the "Income" column using NumPy.
9. Plot a histogram of the "Age" column using Pandas.
10. Filter the DataFrame to only include rows where the "Income" is greater than 50,000. Display the first 5 rows.

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Set 2:

1. Load the CSV file named "data.csv" into a Pandas DataFrame. Display the last 5 rows.
2. Using Pandas, find the mode of the "Gender" column.
3. Calculate the sum of the "Income" column using NumPy.
4. Create a line plot using Matplotlib to visualize the trend of "Age" over time.
5. Filter the DataFrame to only include rows where the "Education" column is 'Graduate'. Display the first 5 rows.
6. Calculate the maximum value of the "Weight" column using NumPy.
7. Group the DataFrame by the "Gender" column and calculate the median age for each gender.
8. Create a box plot using Matplotlib to visualize the distribution of the "Income" column.
9. Calculate the mean of the "Height" column using NumPy.
10. Plot a pie chart using Matplotlib to show the distribution of values in the "Education" column.

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MScIT Programme – Sem II
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Subject Name: Machine Learning With Python
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Set 3:

1. Load the CSV file named "data.csv" into a Pandas DataFrame. Display the last 5 rows.
2. Calculate the percentage of missing values in each column of the DataFrame using Pandas.
3. Create a scatter plot using Matplotlib to visualize the relationship between the "Income" and "Education" columns.
4. Filter the DataFrame to only include rows where the "Gender" column is 'Female'. Display the last 5 rows.
5. Group the DataFrame by the "Region" column and calculate the median income for each region.
6. Calculate the standard deviation of the "Age" column using NumPy.
7. Create a bar chart using Matplotlib to show the count of each unique value in the "Gender" column.
8. Calculate the median of the "Weight" column using NumPy.
9. Plot a histogram of the "Income" column using Pandas.
10. Filter the DataFrame to only include rows where the "Age" is less than 40. Display the last 5 rows.

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Subject Name: Machine Learning With Python
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Set 4:

1. Load the CSV file named "data.csv" into a Pandas DataFrame. Display top 20 records.
2. Using Pandas, find the mode of the "Education" column.
3. Calculate the sum of the "Weight" column using NumPy.
4. Create a line plot using Matplotlib to visualize the trend of "Income" over time.
5. Filter the DataFrame to only include rows where the "Region" column is 'East'. Display the first 10 rows.
6. Calculate the maximum value of the "Age" column using NumPy.
7. Group the DataFrame by the "Education" column and calculate the mean weight for each education level.
8. Create a box plot using Matplotlib to visualize the distribution of the "Age" column.
9. Calculate the mean of the "Income" column using NumPy.
10. Plot a pie chart using Matplotlib to show the distribution of values in the "Gender" column.

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Mid Term Exam-2024

Subject Name: Machine Learning With Python
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Set 5:

1. Load the CSV file named "data.csv" into a Pandas DataFrame. Display the shape of the DataFrame.
2. Calculate the total number of missing values in the DataFrame using Pandas.
3. Create a scatter plot using Matplotlib to visualize the relationship between the "Age" and "Height" columns.
4. Filter the DataFrame to only include rows where the "Gender" column is 'Male'. Display the shape of the filtered DataFrame.
5. Group the DataFrame by the "Region" column and calculate the mean age for each region.
6. Calculate the median of the "Weight" column using NumPy.
7. Create a bar chart using Matplotlib to show the count of each unique value in the "Education" column.
8. Calculate the standard deviation of the "Height" column using NumPy.
9. Plot a histogram of the "Weight" column using Pandas.
10. Filter the DataFrame to only include rows where the "Income" is greater than 60,000. Display the shape of the filtered DataFrame.

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Subject Name: Machine Learning With Python
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Set 6:

1. Load the CSV file named "data.csv" into a NumPy array. Display the column names.
2. Using Pandas, find the mode of the "Region" column.
3. Calculate the sum of the "Age" column using NumPy.
4. Create a line plot using Matplotlib to visualize the trend of "Weight" over time.
5. Filter the DataFrame to only include rows where the "Gender" column is 'Female'. Display the shape of the filtered DataFrame.
6. Calculate the maximum value of the "Income" column using NumPy.
7. Group the DataFrame by the "Education" column and calculate the median age for each education level.
8. Create a box plot using Matplotlib to visualize the distribution of the "Weight" column.
9. Calculate the mean of the "Age" column using NumPy.
10. Plot a pie chart using Matplotlib to show the distribution of values in the "Region" column.