

**AI/ML Programming**

**MCA-475**

**Assignment – 03**

***BY***

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**SUBMITTED TO**

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**SCHOOL OF SCIENCES**

**2024-25**

**Importing Libraries**

import pandas as pd

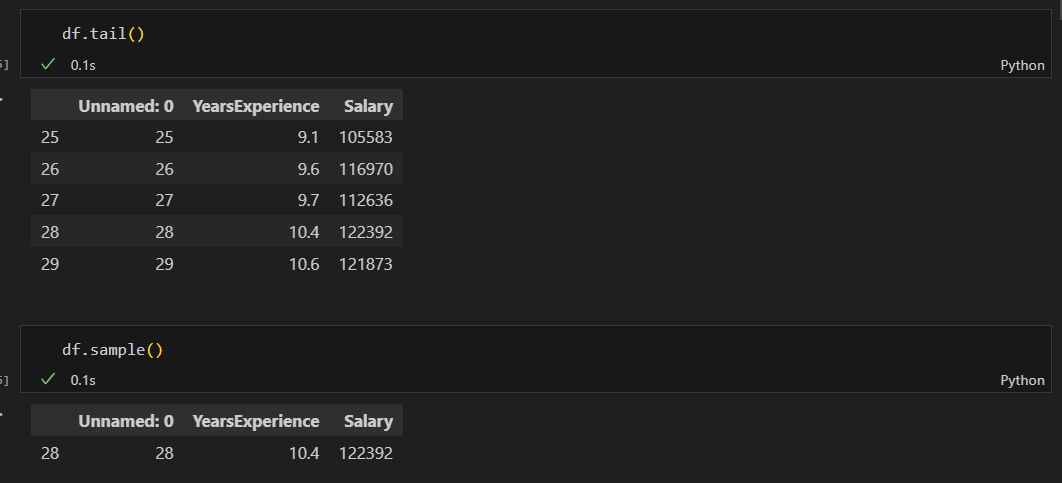
import numpy as np

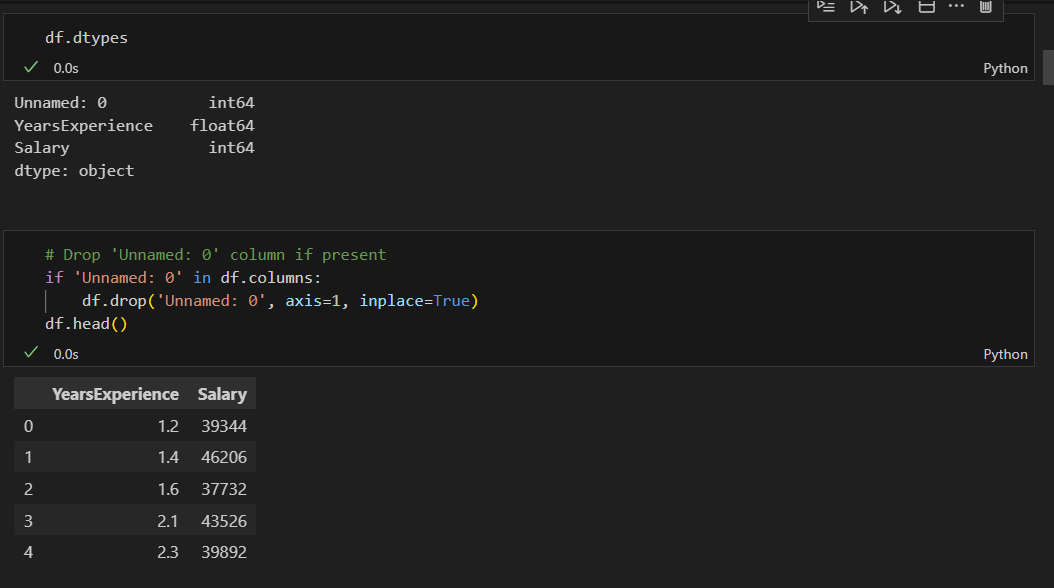
import matplotlib.pyplot as plt

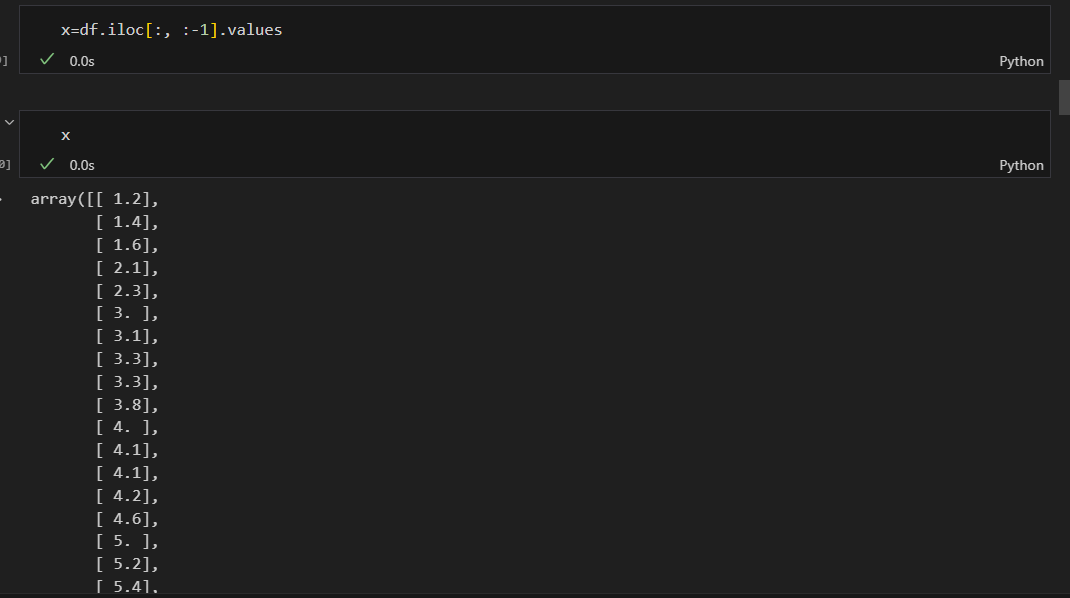
import seaborn as sns

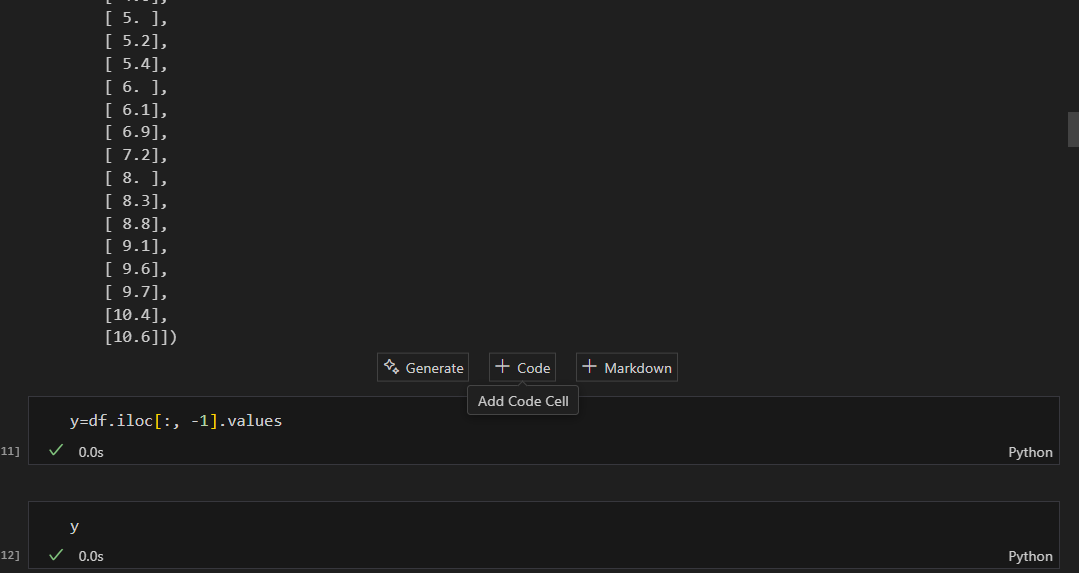
from datetime import date

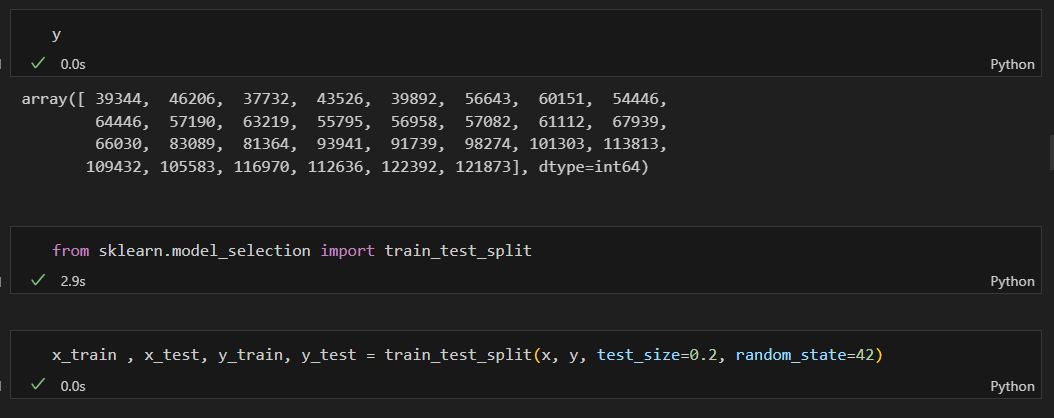
df = pd.read\_csv('./Dataset/Salary\_dataset.csv')

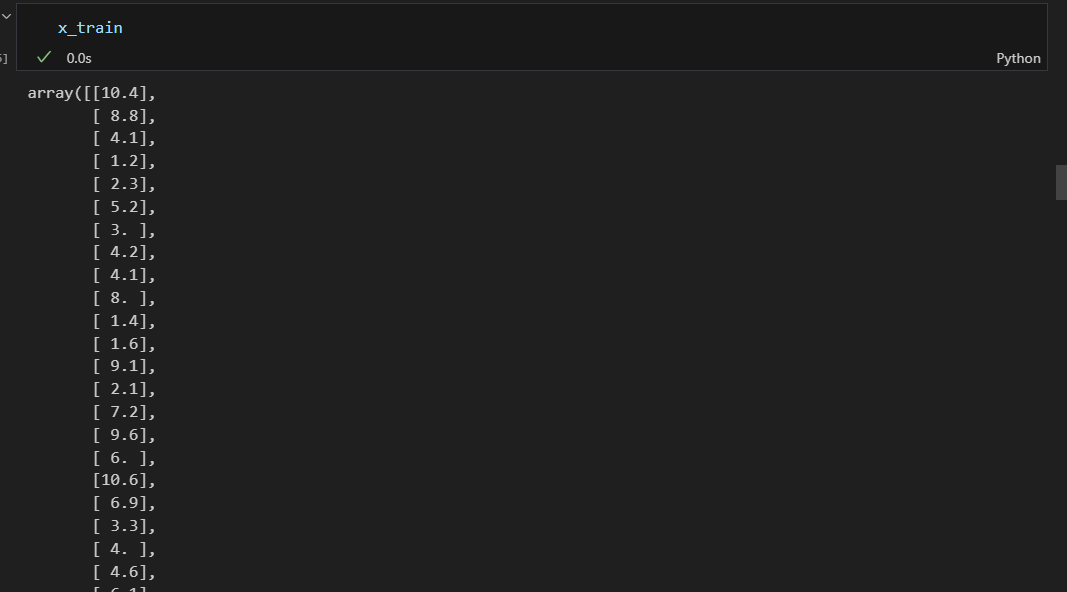
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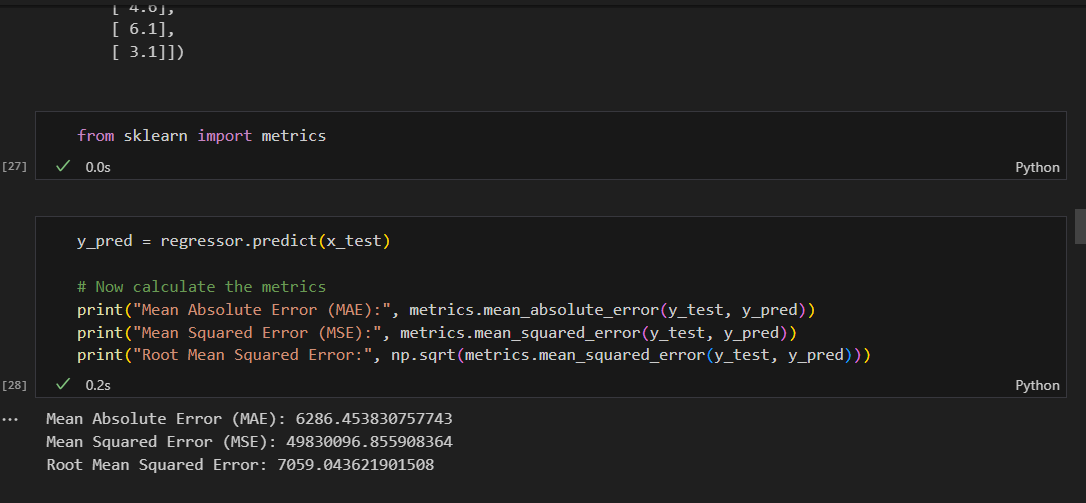
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# Visualize Salary vs Years of Experience

plt.figure(figsize=(10,6))

sns.scatterplot(x=df['YearsExperience'], y=df['Salary'], color='royalblue', s=80)

plt.title('Salary vs Years of Experience')

plt.xlabel('Years of Experience')

plt.ylabel('Salary')

plt.grid(True)

plt.show()

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# Regression line plot

plt.figure(figsize=(10,6))

sns.regplot(x=df['YearsExperience'], y=df['Salary'], color='darkorange', line\_kws={'color':'red'})

plt.title('Regression: Salary vs Years of Experience')

plt.xlabel('Years of Experience')

plt.ylabel('Salary')

plt.grid(True)

plt.show()

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# More graphical presentations for Salary dataset

plt.figure(figsize=(10,6))

sns.histplot(df['Salary'], bins=10, kde=True, color='teal')

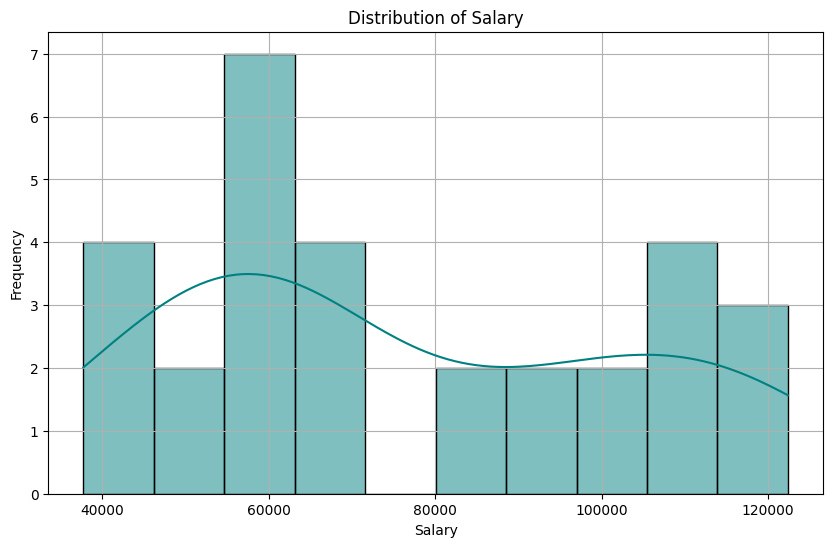
plt.title('Distribution of Salary')

plt.xlabel('Salary')

plt.ylabel('Frequency')

plt.grid(True)

plt.show()

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plt.figure(figsize=(10,6))

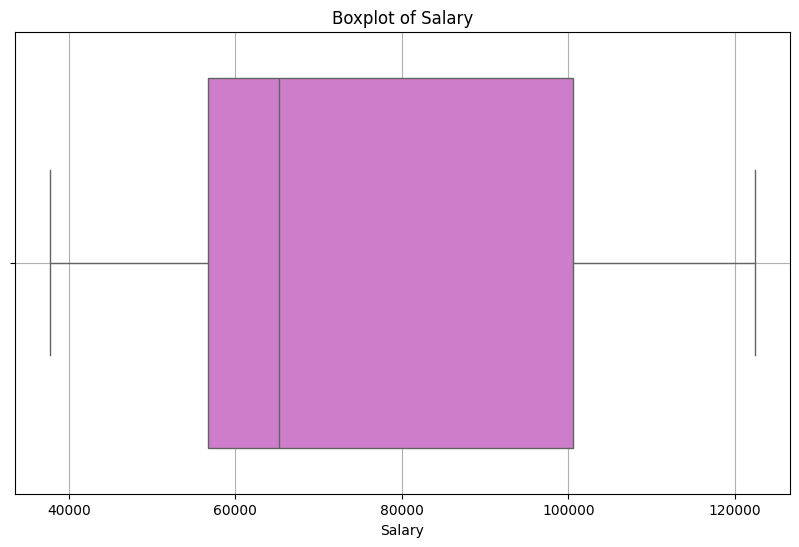
sns.boxplot(x=df['Salary'], color='orchid')

plt.title('Boxplot of Salary')

plt.xlabel('Salary')

plt.grid(True)

plt.show()

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plt.figure(figsize=(10,6))

sns.kdeplot(df['YearsExperience'], shade=True, color='navy')

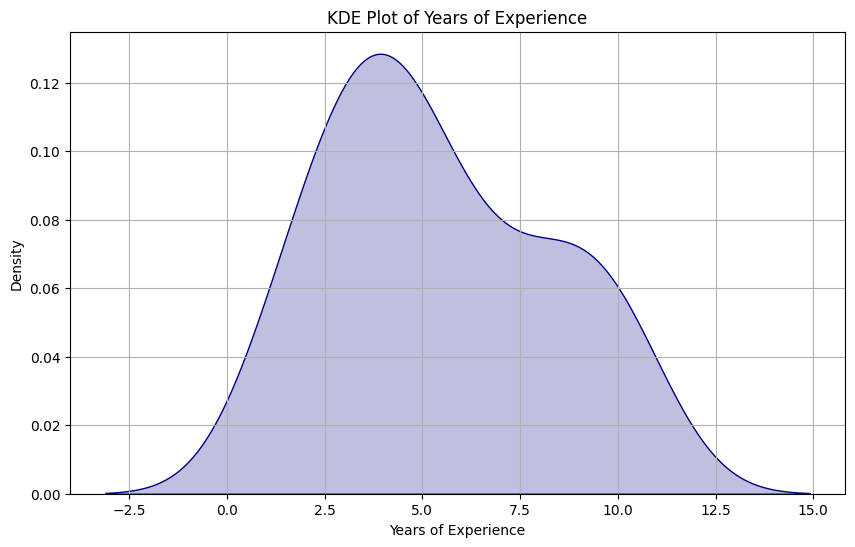
plt.title('KDE Plot of Years of Experience')

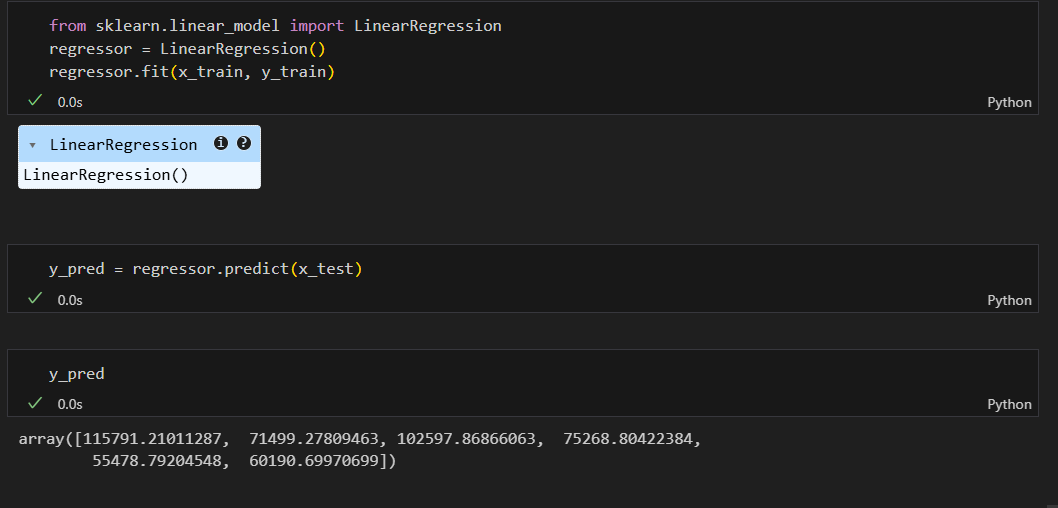
plt.xlabel('Years of Experience')

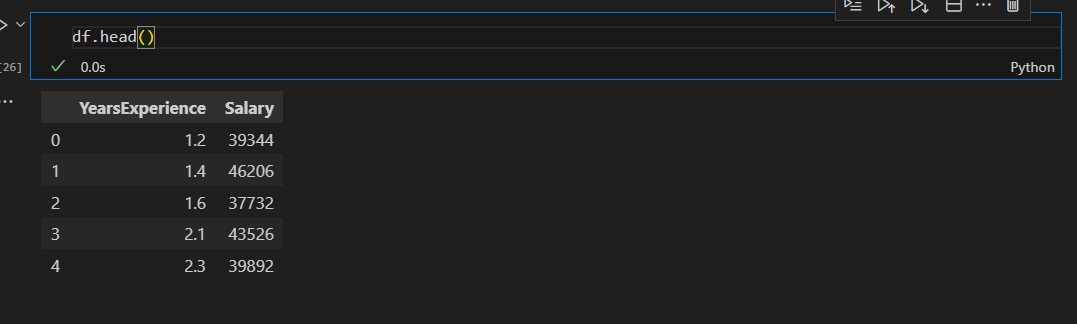
plt.ylabel('Density')

plt.grid(True)

plt.show()

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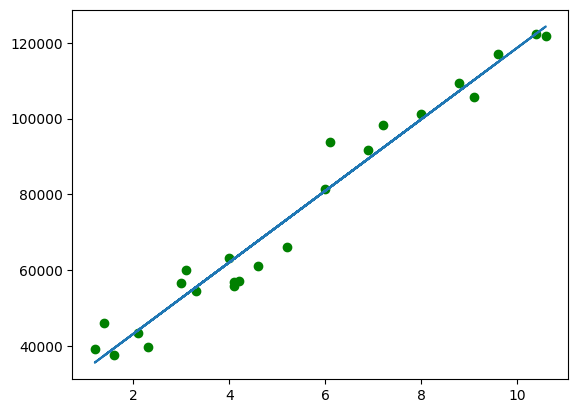
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plt.scatter(x\_train, y\_train, color='green')

plt.plot(x\_train,regressor.predict(x\_train))

plt.show()

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