

Task-2

Crop Yield Prediction :

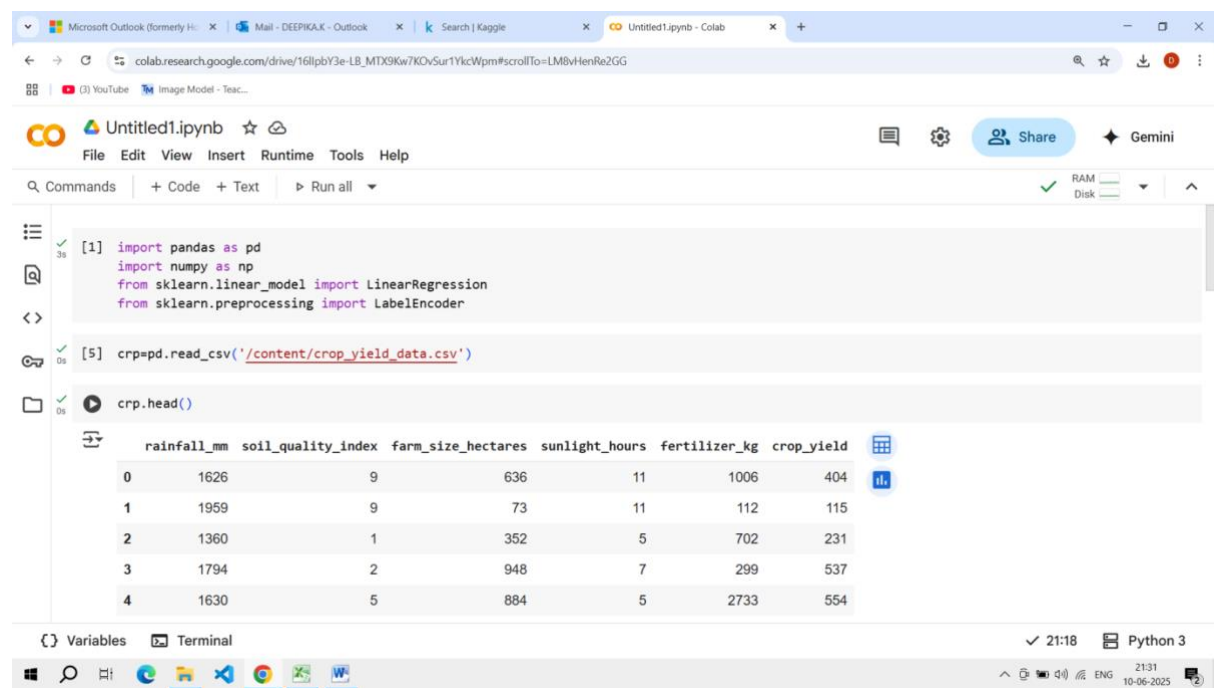
Code :

```
import pandas as pd
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import LabelEncoder
crp=pd.read_csv('/content/crop_yield_data.csv')
crp.head()
crp.isnull().sum()
x=crp[['rainfall_mm','soil_quality_index','farm_size_hectare
s','sunlight_hours','fertilizer_kg']]
y=crp['crop_yield']
LR = LinearRegression()
LR.fit(x,y)
LR.predict([[1600,8,545,11,798]])
print("The Yiekd in Crop
is",LR.predict([[1600,8,545,11,798]]))
```

output :

The Yiekd in Crop is [351.54682311]

Sample Image :



The screenshot shows a Google Colab notebook interface. The code cell contains the following Python code:

```
[1] import pandas as pd
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import LabelEncoder

[5] crp=pd.read_csv('/content/crop_yield_data.csv')

crp.head()
```

The output of the `crp.head()` command is displayed as a table with 7 columns: `rainfall_mm`, `soil_quality_index`, `farm_size_hectares`, `sunlight_hours`, `fertilizer_kg`, and `crop_yield`. The first five rows of data are shown:

	rainfall_mm	soil_quality_index	farm_size_hectares	sunlight_hours	fertilizer_kg	crop_yield
0	1626	9	636	11	1006	404
1	1959	9	73	11	112	115
2	1360	1	352	5	702	231
3	1794	2	948	7	299	537
4	1630	5	884	5	2733	554

Microsoft Outlook (formerly H... x Mail - DEEPIKAK - Outlook x Search | Kaggle x Untitled1.ipynb - Colab x +

colab.research.google.com/drive/16llpbY3e-LB_MTX9Kw7KOv5ur1YkcWpm#scrollTo=LM8vHenRe2GG

Untitled1.ipynb ☆

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Next steps: [Generate code with crp](#) [View recommended plots](#) [New interactive sheet](#)

```
crp.isnull().sum()
```

rainfall_mm	0
soil_quality_index	0
farm_size_hectares	0
sunlight_hours	0
fertilizer_kg	0
crop_yield	0

dtype: int64

```
[26] crp.info()
```

Variables Terminal

21:18 Python 3

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colab.research.google.com/drive/16llpbY3e-LB_MTX9Kw7KOv5ur1YkcWpm#scrollTo=LM8vHenRe2GG

Untitled1.ipynb ☆

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```
[22] x=crp[['rainfall_mm','soil_quality_index','farm_size_hectares','sunlight_hours','fertilizer_kg']]
      y=crp['crop_yield']
```

```
[23] LR = LinearRegression()
```

```
[24] LR.fit(x,y)
```

LinearRegression

```
LR.predict([[1600,8,545,11,798]])
```

```
/usr/local/lib/python3.11/dist-packages/sklearn/utils/validation.py:2739: UserWarning: X does not have valid feature names, but LinearRegressor
warnings.warn(
array([351.54682311])
```

```
[21] print("The Yiekd in Crop is",LR.predict([[1600,8,545,11,798]]))
```

Variables Terminal

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LinearRegression

```
LinearRegression()
```

```
LR.predict([[1600,8,545,11,798]])
```

```
/usr/local/lib/python3.11/dist-packages/sklearn/utils/validation.py:2739: UserWarning: X does not have valid feature names, but LinearRegressor
warnings.warn(
array([351.54682311])
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```
[21] print("The Yiekd in Crop is",LR.predict([[1600,8,545,11,798]]))
```

```
The Yiekd in Crop is [351.54682311]
/usr/local/lib/python3.11/dist-packages/sklearn/utils/validation.py:2739: UserWarning: X does not have valid feature names, but LinearRegressor
warnings.warn(
```

Variables Terminal 21:18 Python 3

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