VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
[ ] from google.colab import drive
    drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```
[ ] import pandas as pd
    import matplotlib.pyplot as plt
    import seaborn as sns
    path="/content/drive/MyDrive/penguins/penguins.csv"
    df=pd.read_csv(path)
    df.head()
    print('Dataset has', df.shape[0] , 'rows and', df.shape[1], 'columns')
    df.info()
    df.describe()
    df.isnull().sum()
```

```
Dataset has 344 rows and 7 columns
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 344 entries, 0 to 343
Data columns (total 7 columns):
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   species            344 non-null    object
 1   island             344 non-null    object
```

Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

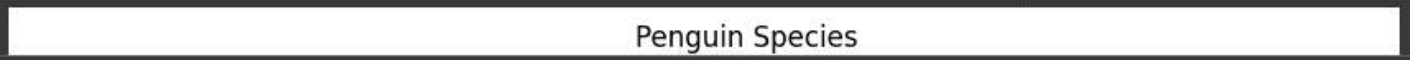
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
[ ]  1   island             344 non-null    object
     2   bill_length_mm     342 non-null    float64
     3   bill_depth_mm      342 non-null    float64
     4   flipper_length_mm  342 non-null    float64
     5   body_mass_g        342 non-null    float64
     6   sex                333 non-null    object
    dtypes: float64(4), object(3)
    memory usage: 18.9+ KB
    species              0
    island               0
    bill_length_mm       2
    bill_depth_mm        2
    flipper_length_mm    2
    body_mass_g          2
    sex                 11
    dtype: int64
```

```
plt.rcParams['figure.figsize'] = (10,7)
df['species'].value_counts(normalize = True).plot(kind = 'bar', color = 'seagreen', linewidth = 1, edgecolor = 'k')
plt.title('Penguin Species')
plt.xlabel('Species')
plt.ylabel('% (100s)')
plt.xticks(rotation = 360)
plt.show()
```



Type here to search 35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

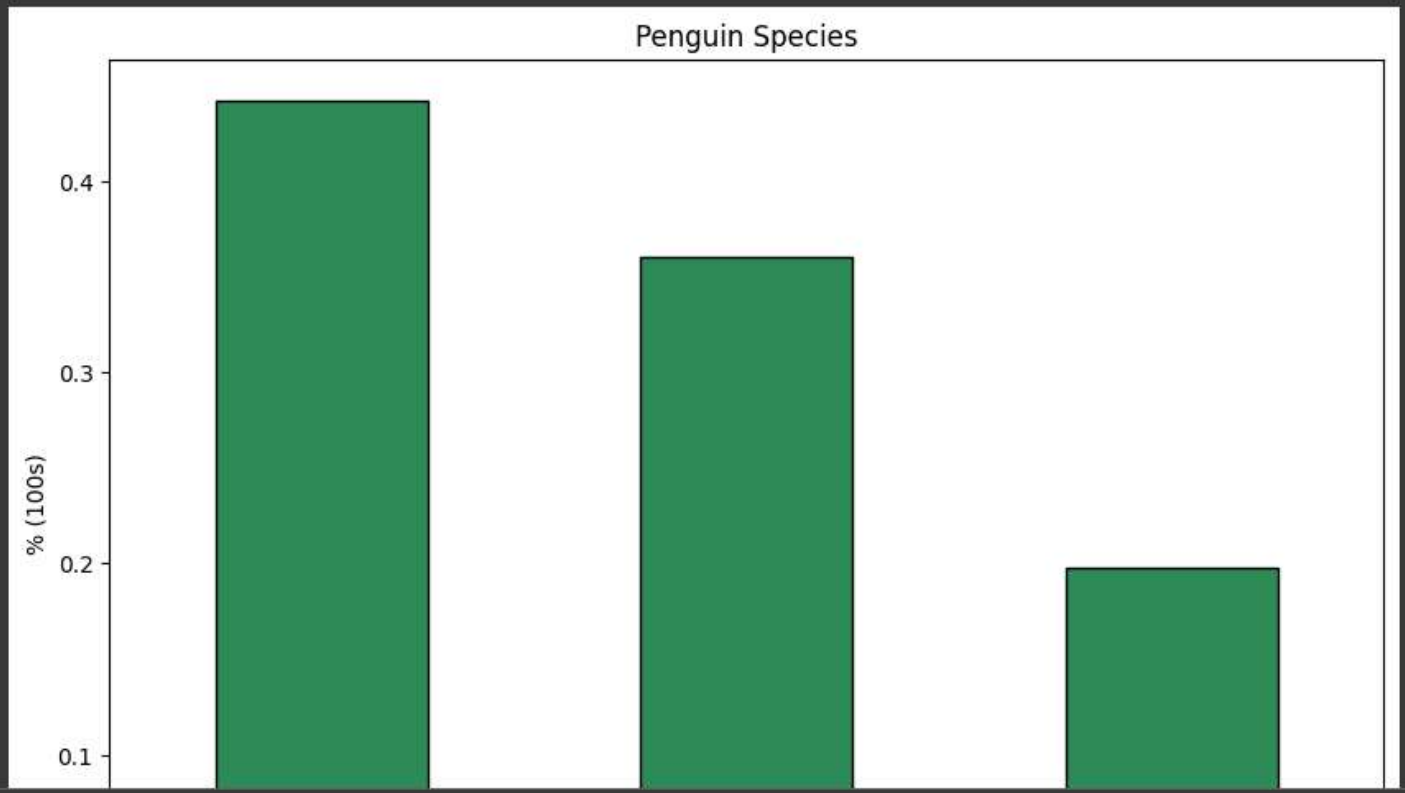
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

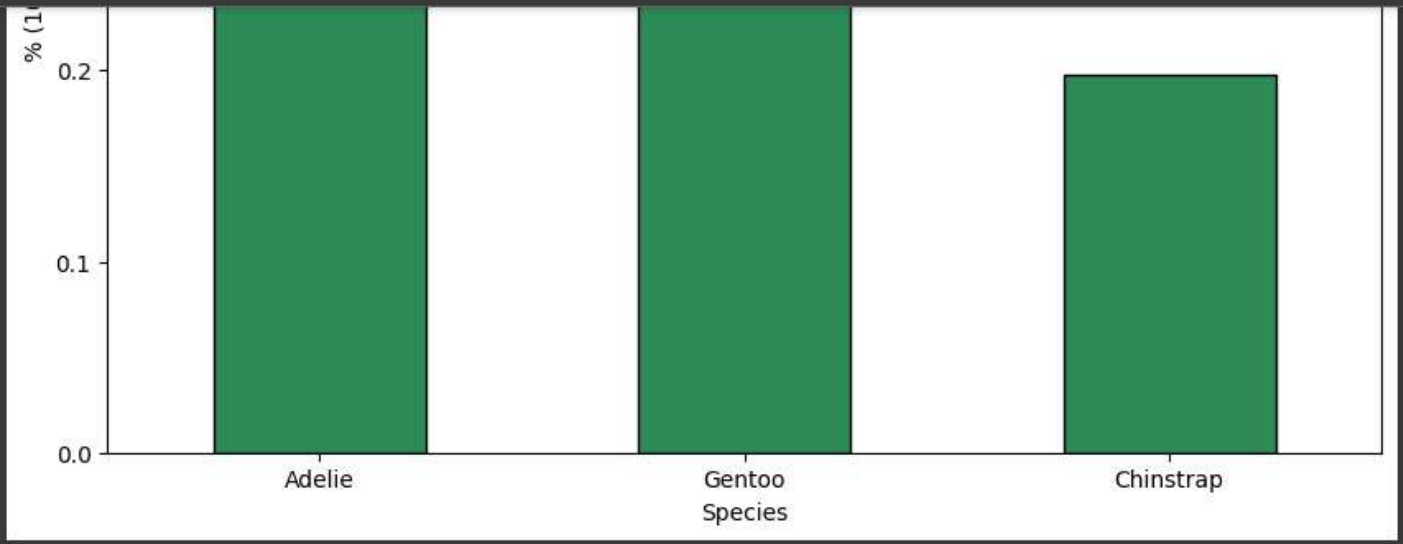
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]




```
df['island'].value_counts(normalize = True).plot(kind = 'bar', color = 'seagreen', linewidth = 1, edgecolor = 'k')
plt.title('Islands where Penguins live')
plt.xlabel('Island')
plt.ylabel('% (100s)')
plt.xticks(rotation = 360)
plt.show()
```

Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

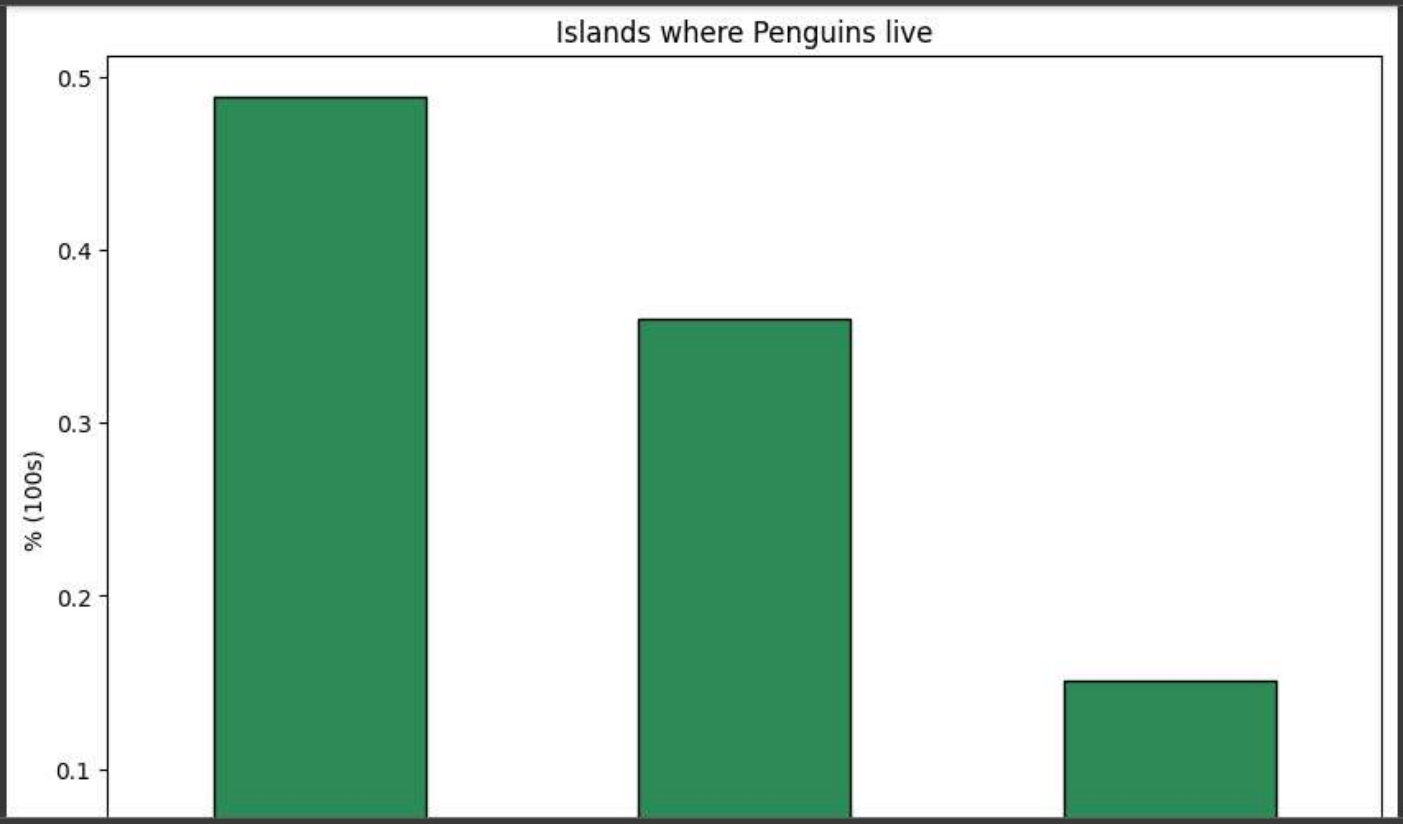
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

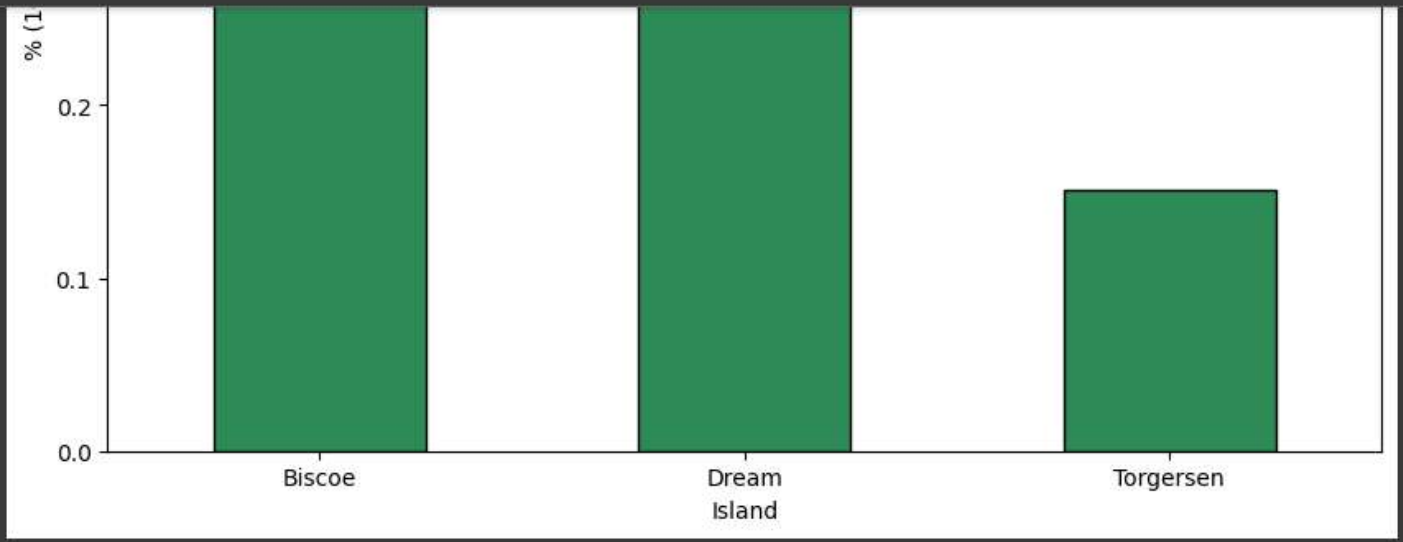
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect




```
df['sex'].value_counts(normalize = True).plot(kind = 'bar', color = 'seagreen', linewidth = 1, edgecolor = 'k')
plt.title('Penguins - Sex')
plt.xlabel('Sex')
plt.ylabel('% (100s)')
plt.xticks(rotation = 360)
plt.show()
```

Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

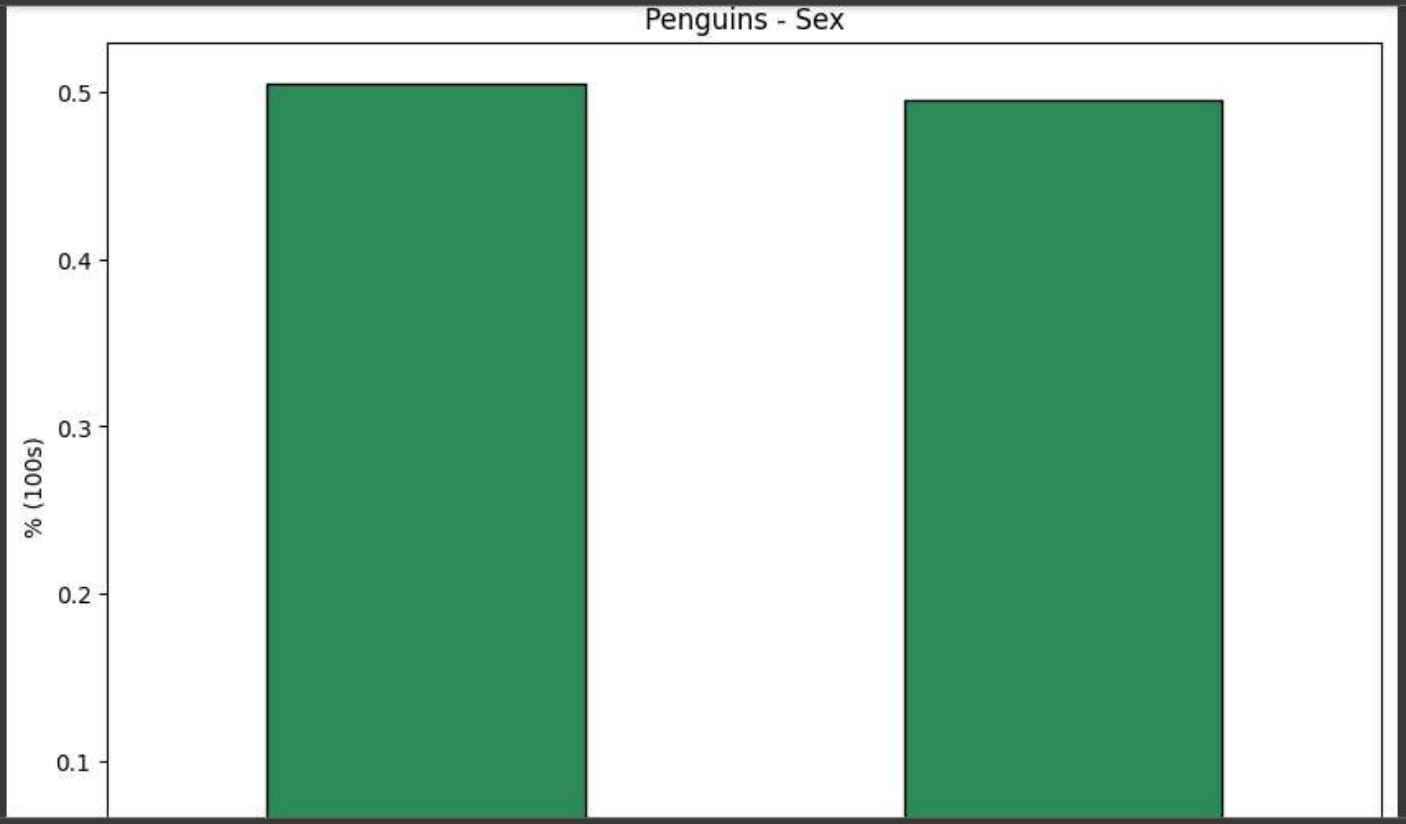
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]



Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]


```
plt.hist(df['flipper_length_mm'], bins=10)
plt.xlabel('Variable Name')
plt.ylabel('Frequency')
plt.title('Histogram of Variable')
plt.show()
sns.kdeplot(df['flipper_length_mm'], shade=True, label='PDF')
sns.kdeplot(df['flipper_length_mm'], cumulative=True, label='CDF')
plt.title('PDF and CDF of Variable')
plt.legend()
plt.show()
```

Type here to search

35°C Haze ENG 16:46 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

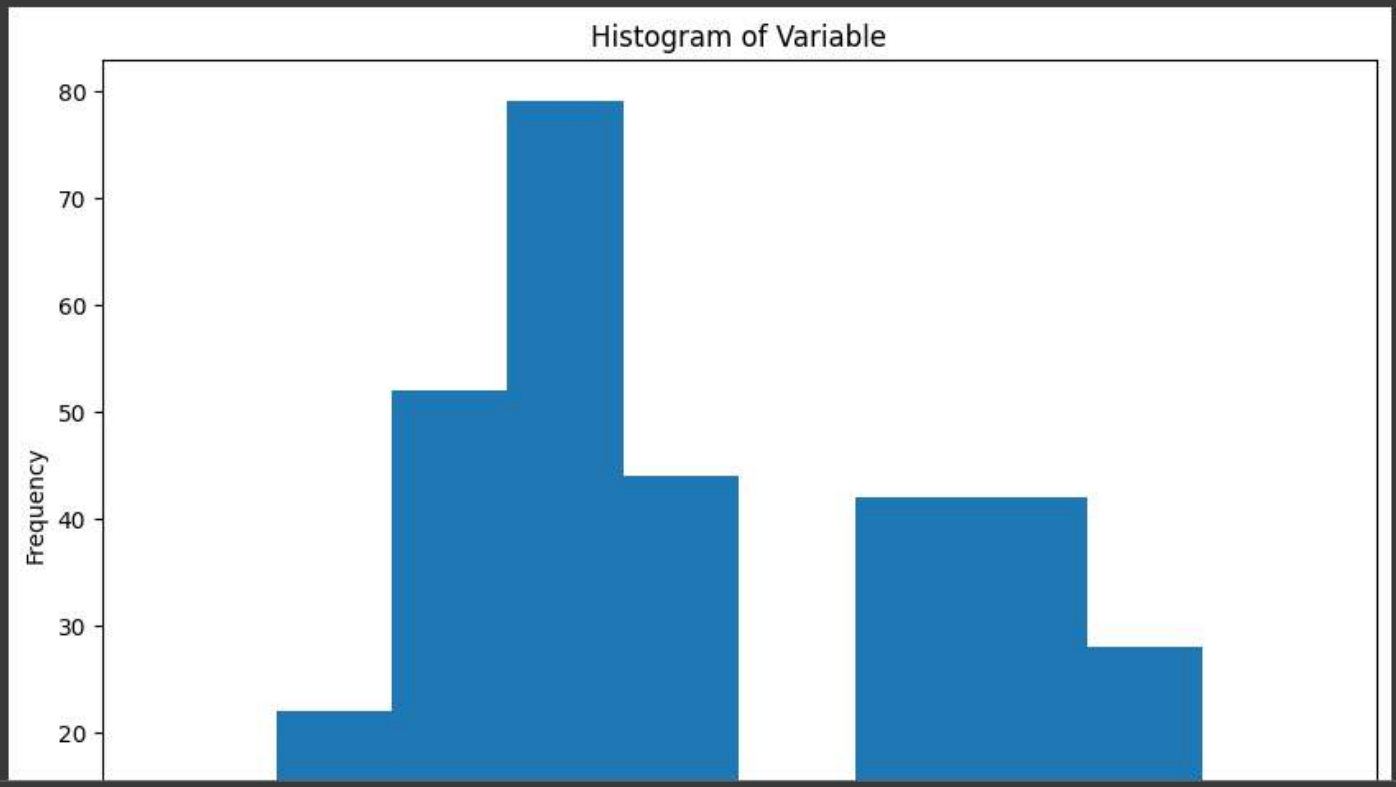
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

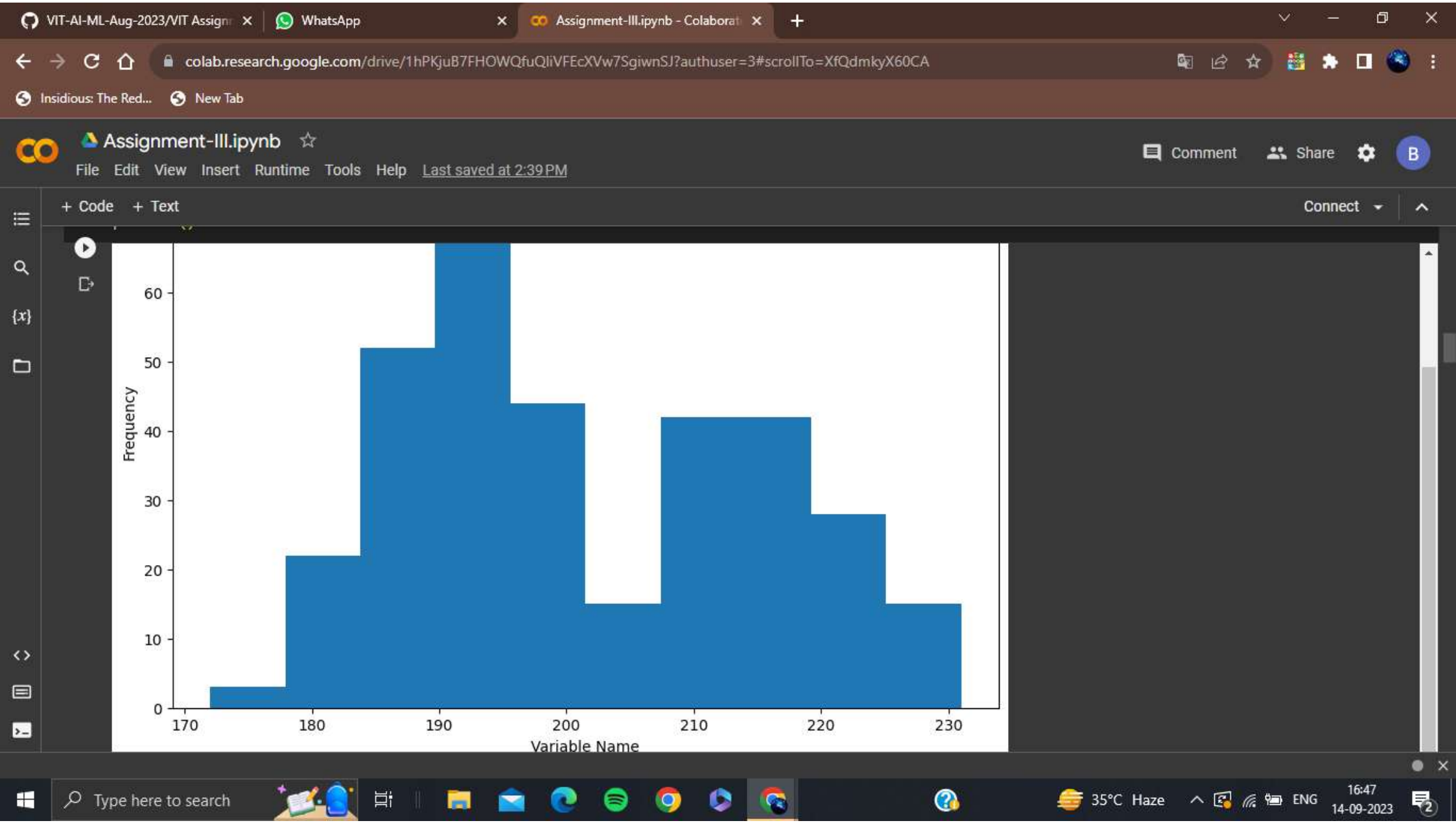
+ Code + Text Connect

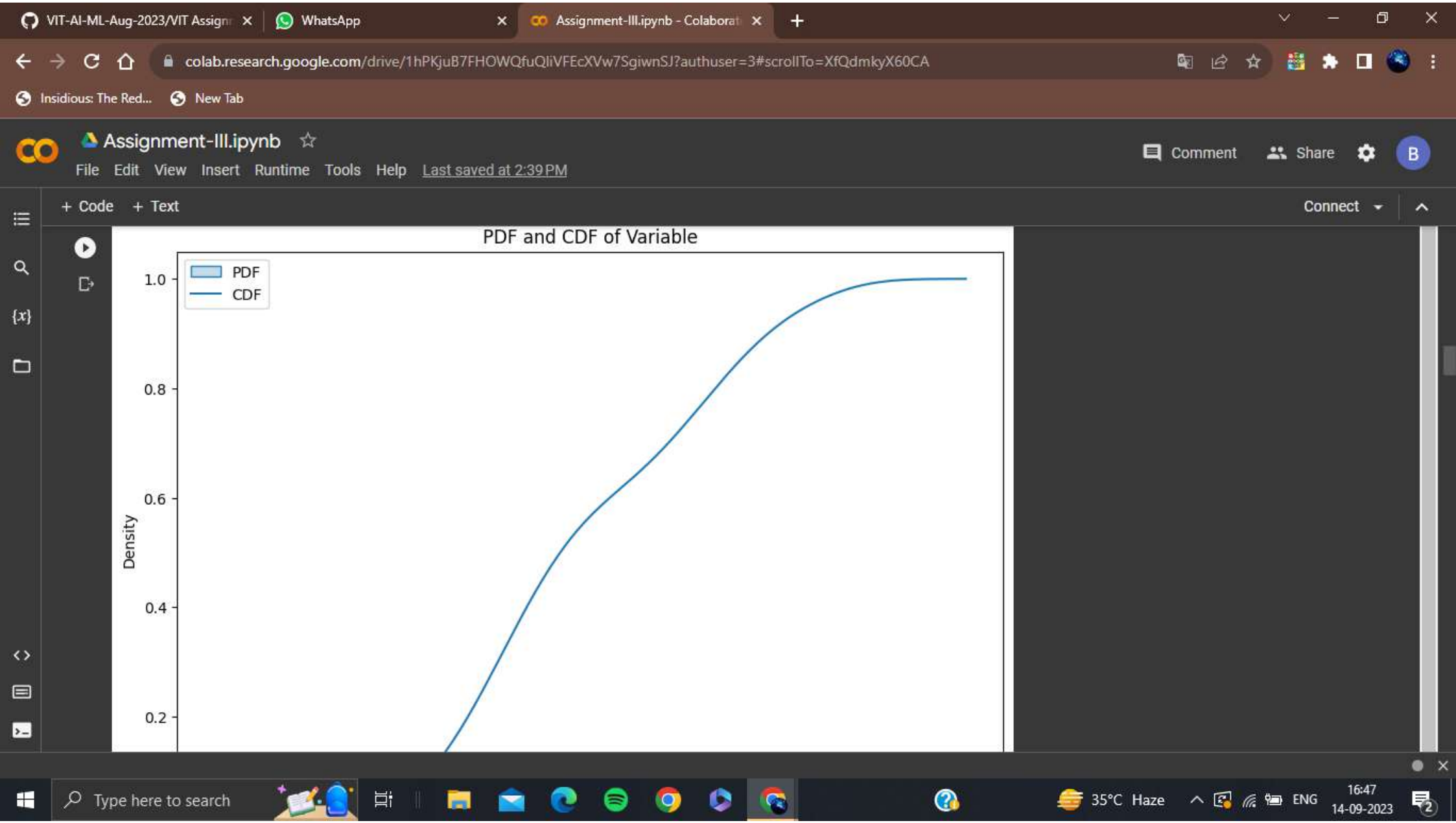
[ ]



Type here to search

35°C Haze ENG 16:47 14-09-2023


VIT-AI-ML-Aug-2023/VIT Assign
WhatsApp
Assignment-III.ipynb - Colaborat
colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA
Insidious: The Red...
New Tab
Assignment-III.ipynb
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM
Comment
Share
B
+ Code + Text
Connect
Frequency
Variable Name
0
10
20
30
40
50
60
170
180
190
200
210
220
230
Type here to search
35°C Haze
ENG
16:47
14-09-2023


VIT-AI-ML-Aug-2023/VIT Assign
WhatsApp
Assignment-III.ipynb - Colaborat
colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA
Insidious: The Red...
New Tab
Assignment-III.ipynb
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM
Comment
Share
B
+ Code + Text
Connect
PDF and CDF of Variable
PDF
CDF
Density
1.0
0.8
0.6
0.4
0.2
Type here to search
35°C Haze
ENG
16:47
14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

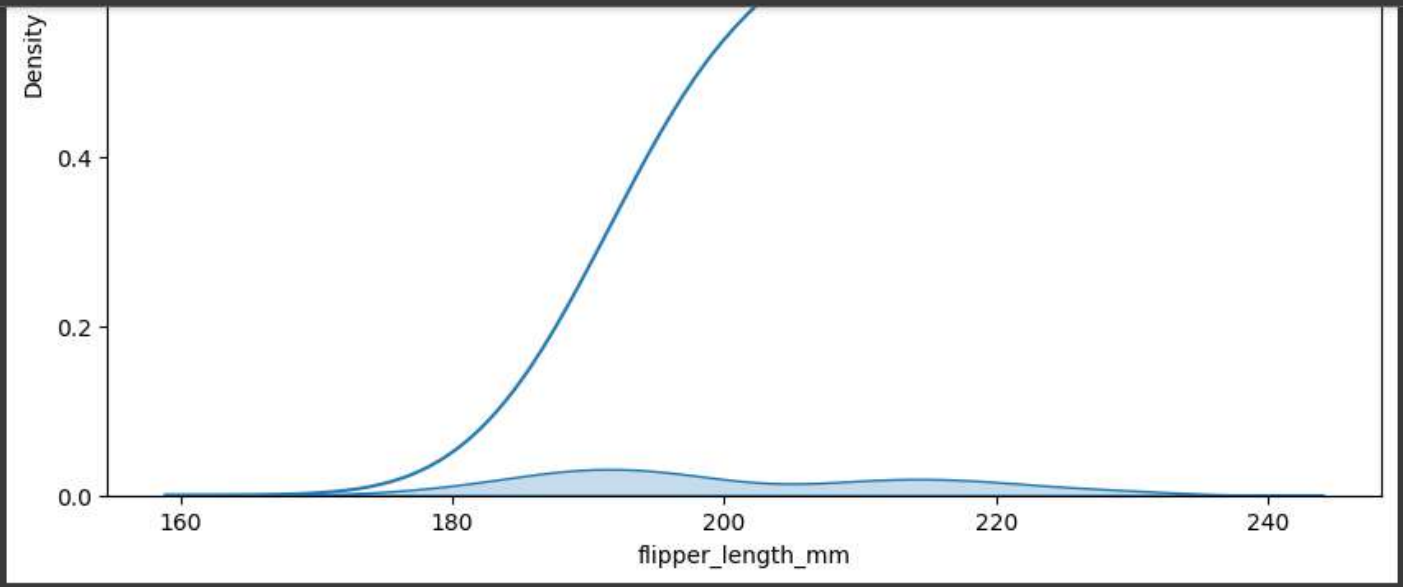
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]




```
sns.scatterplot(data=df, x="bill_length_mm", y="bill_depth_mm")
plt.title("Scatter Plot: Bill Length vs Bill Depth")
plt.show()
```

Scatter Plot: Bill Length vs Bill Depth

Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

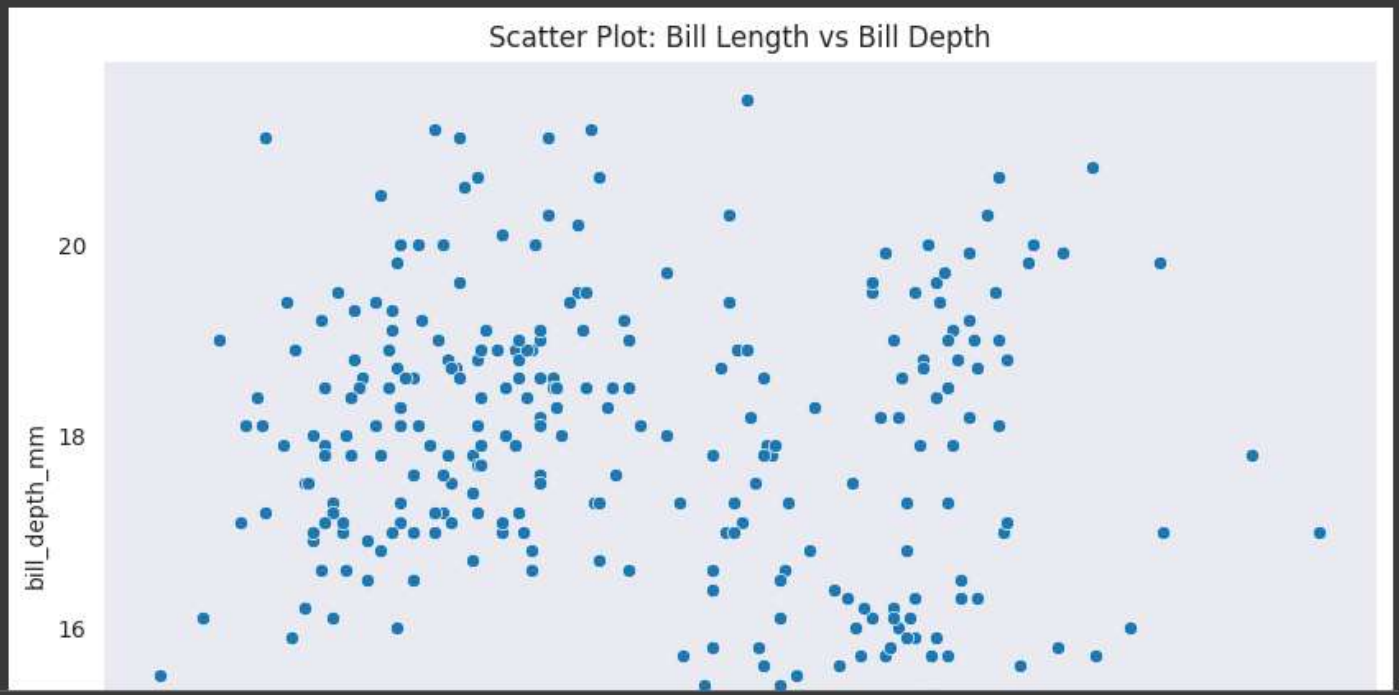
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
sns.scatterplot(data=df, x="bill_length_mm", y="bill_depth_mm")
plt.title("Scatter Plot: Bill Length vs Bill Depth")
plt.show()
```



Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

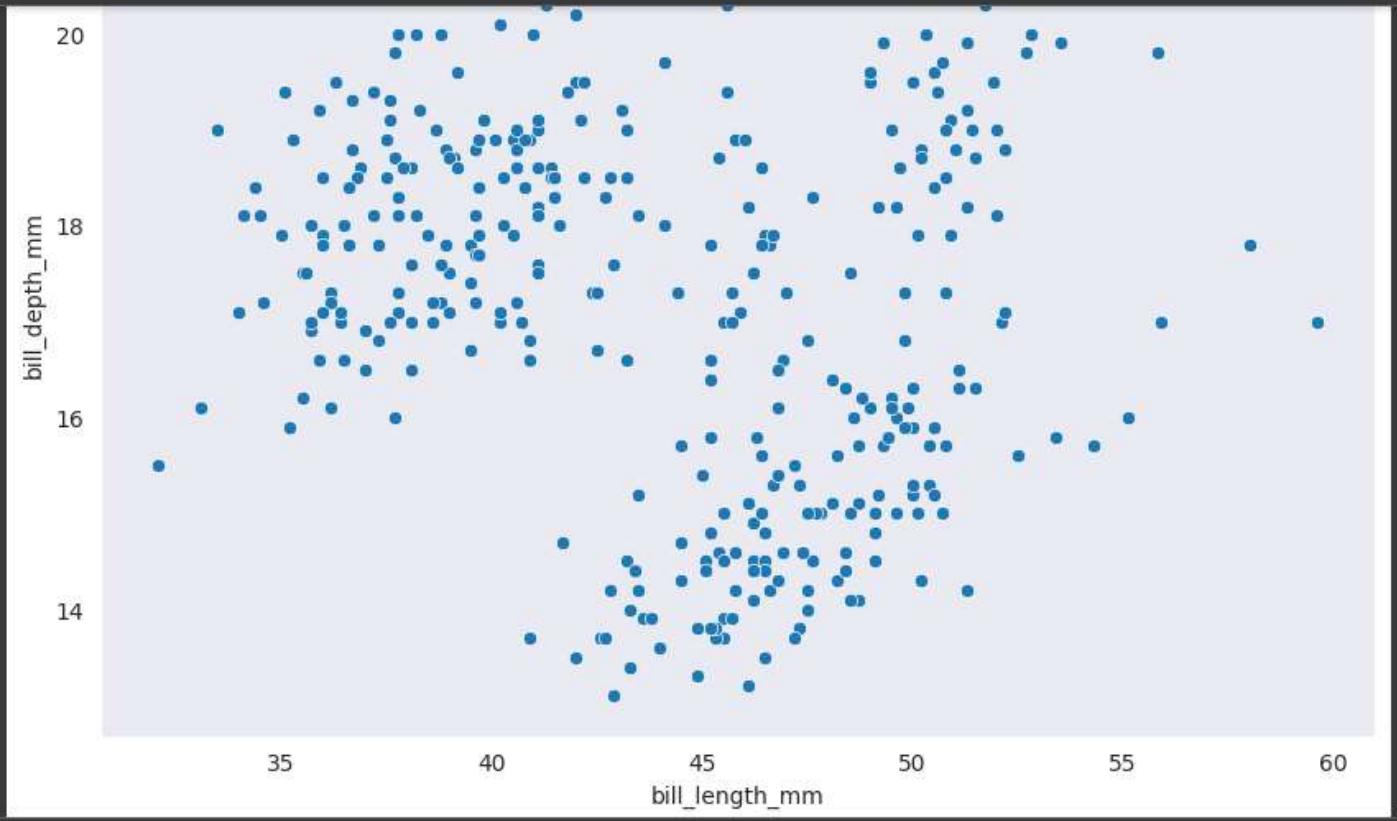
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

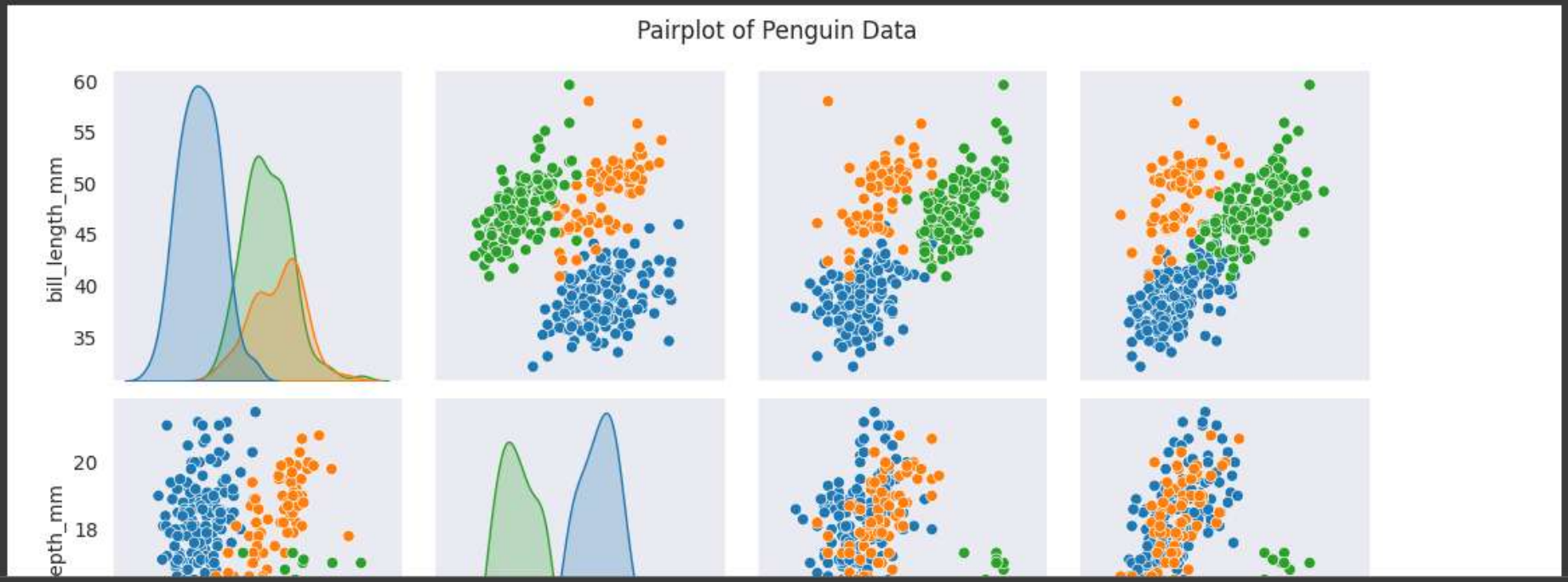
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
sns.pairplot(data=df, hue="species")
plt.suptitle("Pairplot of Penguin Data", y=1.02)
plt.show()
```



Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

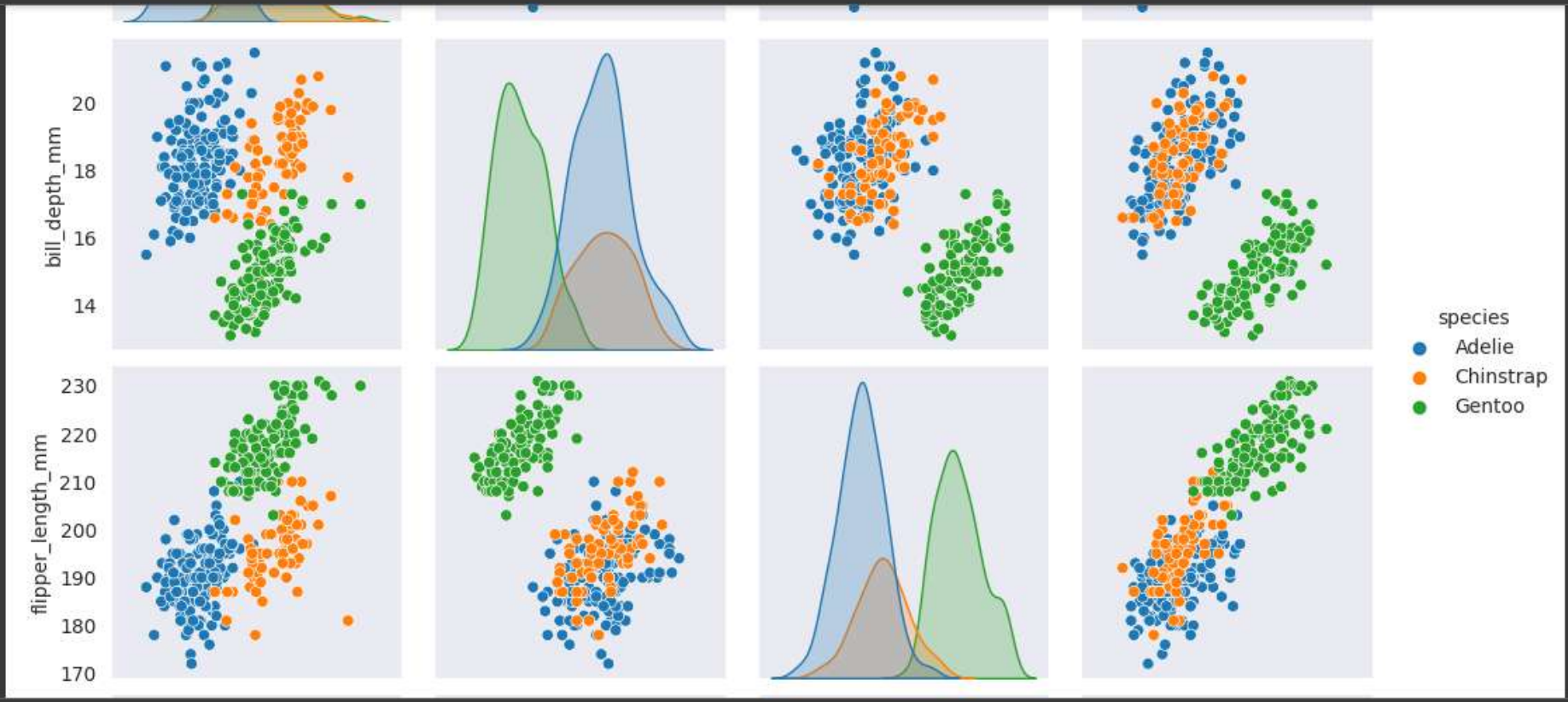
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

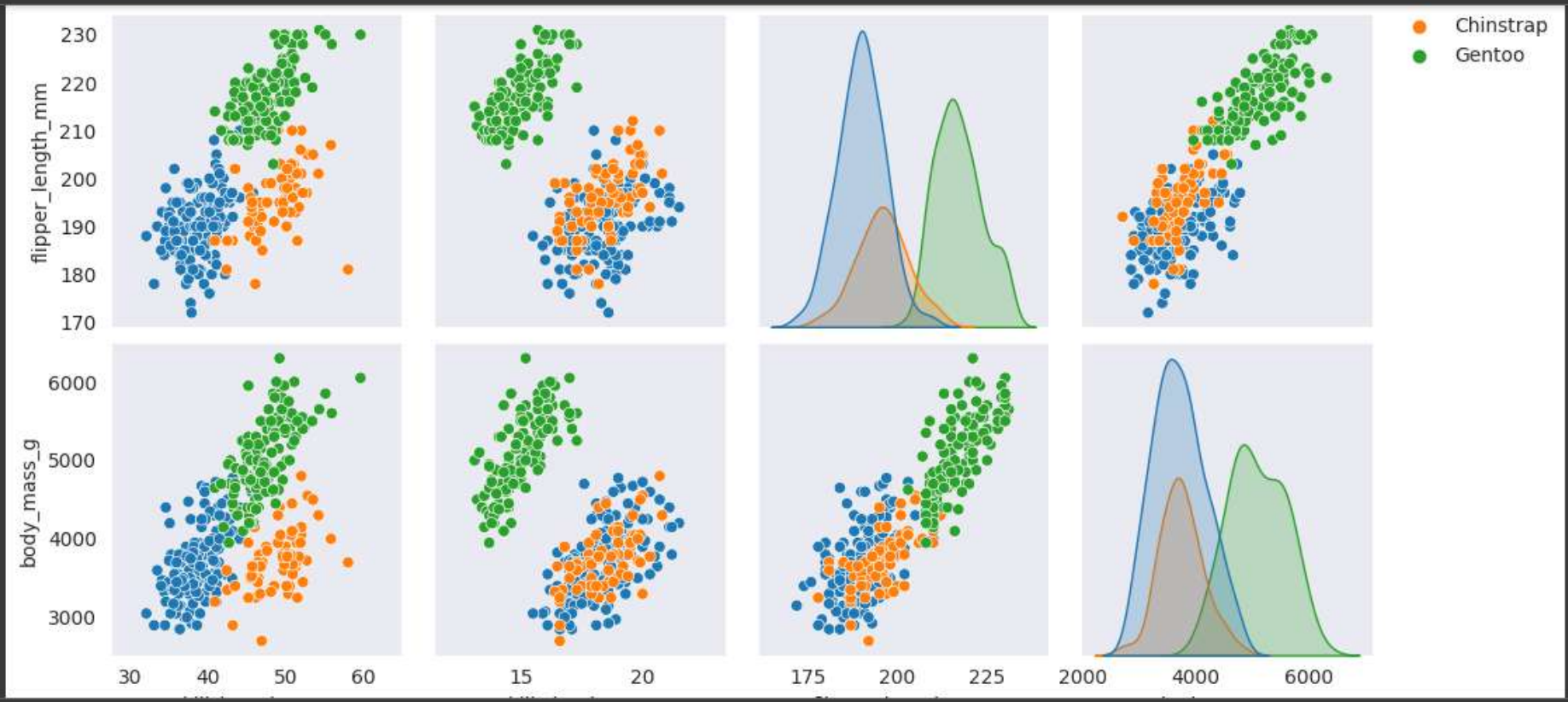
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:47 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

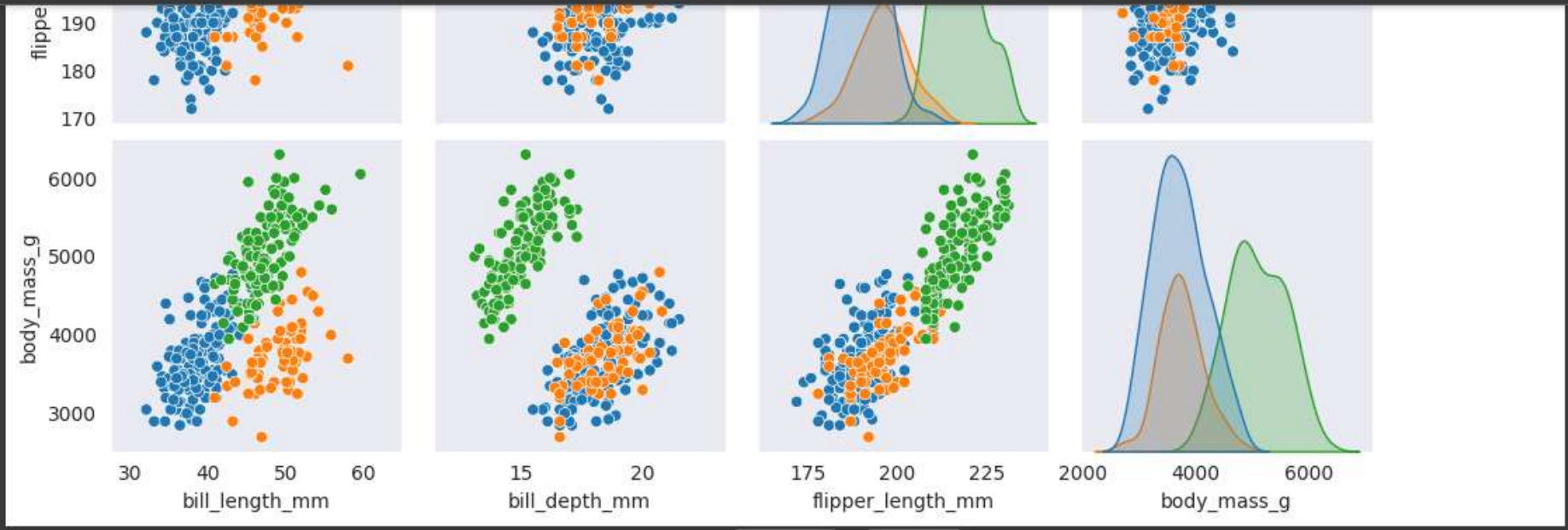
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



+ Code + Text

```
[ ]  correlation_matrix = df.corr()
     sns.heatmap(correlation_matrix, annot=True, cmap="coolwarm")
     plt.title("Correlation Heatmap")
     plt.show()
```

Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

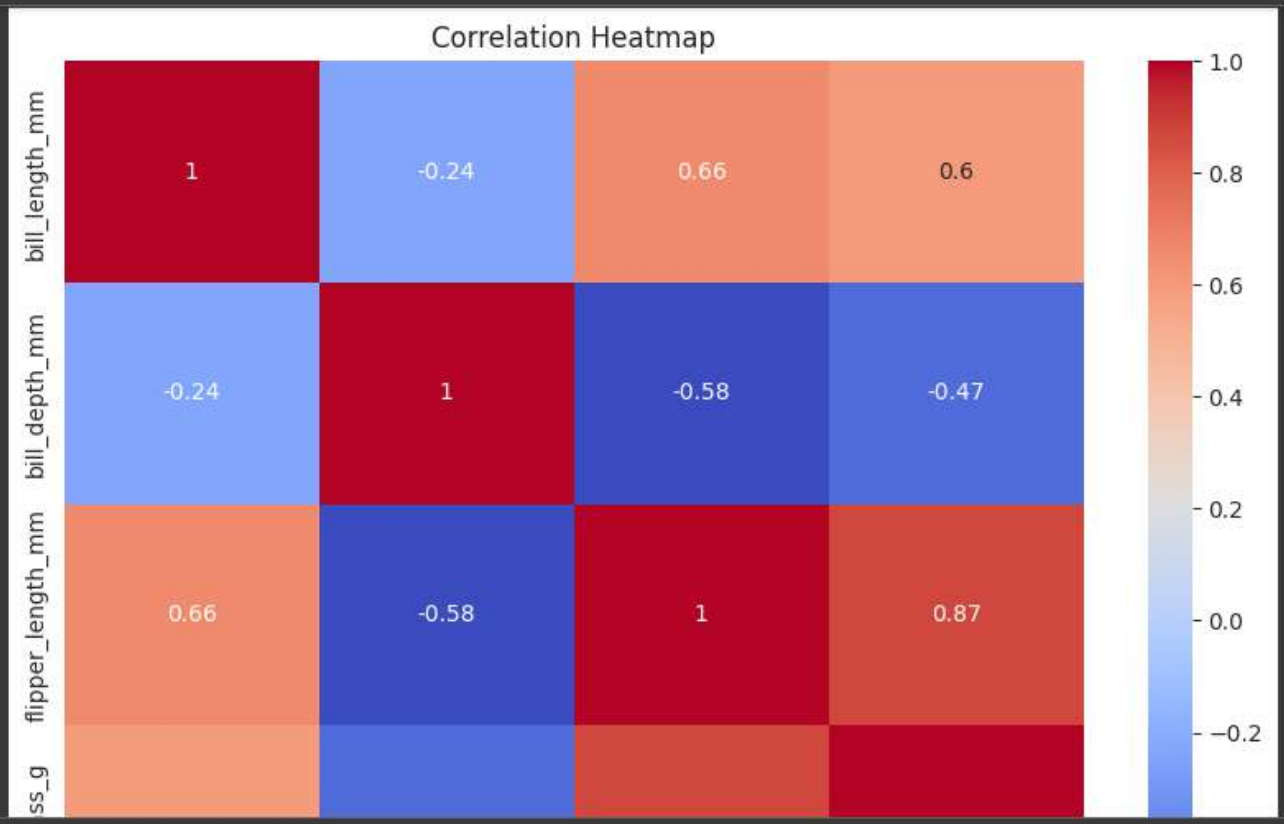
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

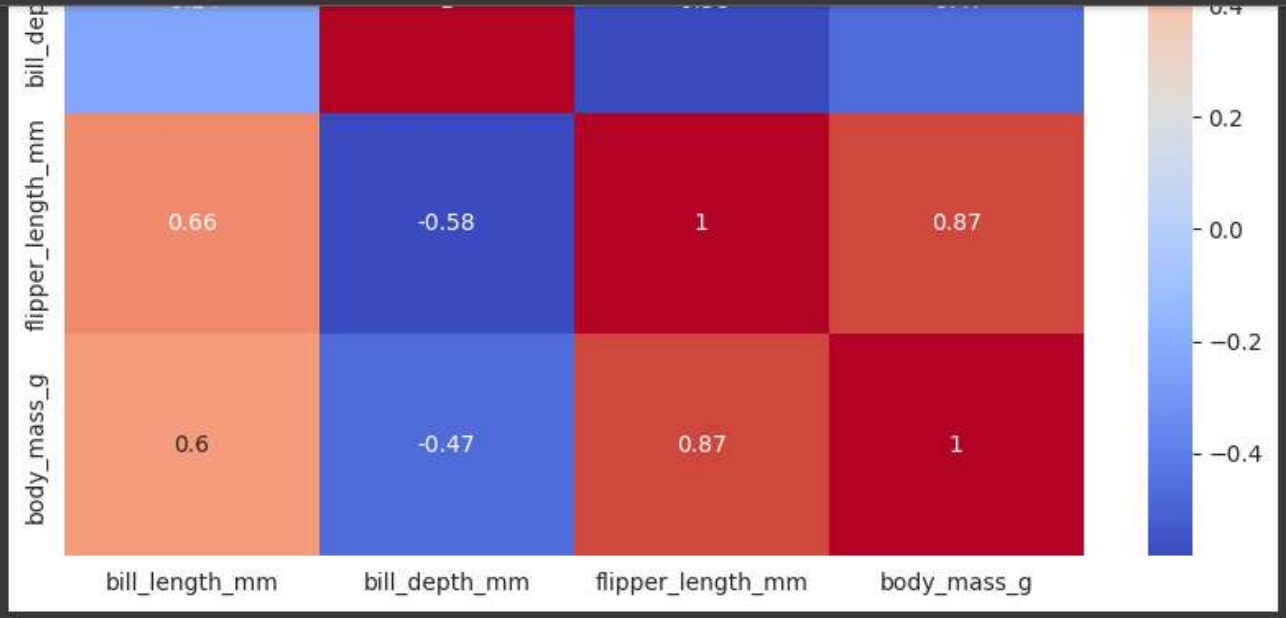
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

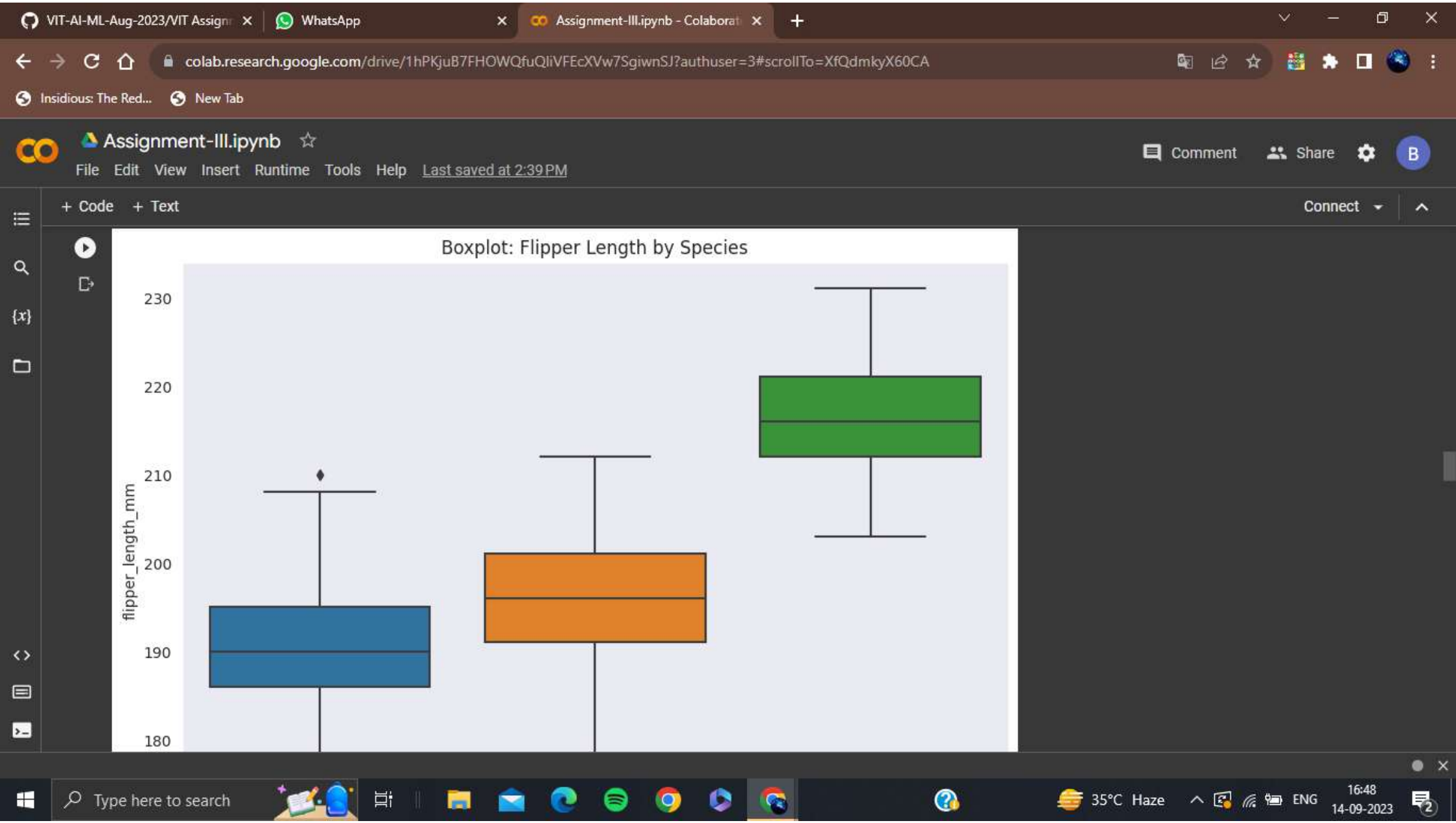
+ Code + Text Connect




```
[ ] sns.boxplot(data=df, x="species", y="flipper_length_mm")
    plt.title("Boxplot: Flipper Length by Species")
    plt.show()
```

Type here to search

35°C Haze ENG 16:48 14-09-2023


VIT-AI-ML-Aug-2023/VIT Assign
WhatsApp
Assignment-III.ipynb - Colaborat
colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA
Insidious: The Red...
New Tab
Assignment-III.ipynb
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM
Comment
Share
B
+ Code + Text
Connect
Boxplot: Flipper Length by Species
flipper_length_mm
230
220
210
200
190
180
Type here to search
35°C Haze
ENG
16:48
14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

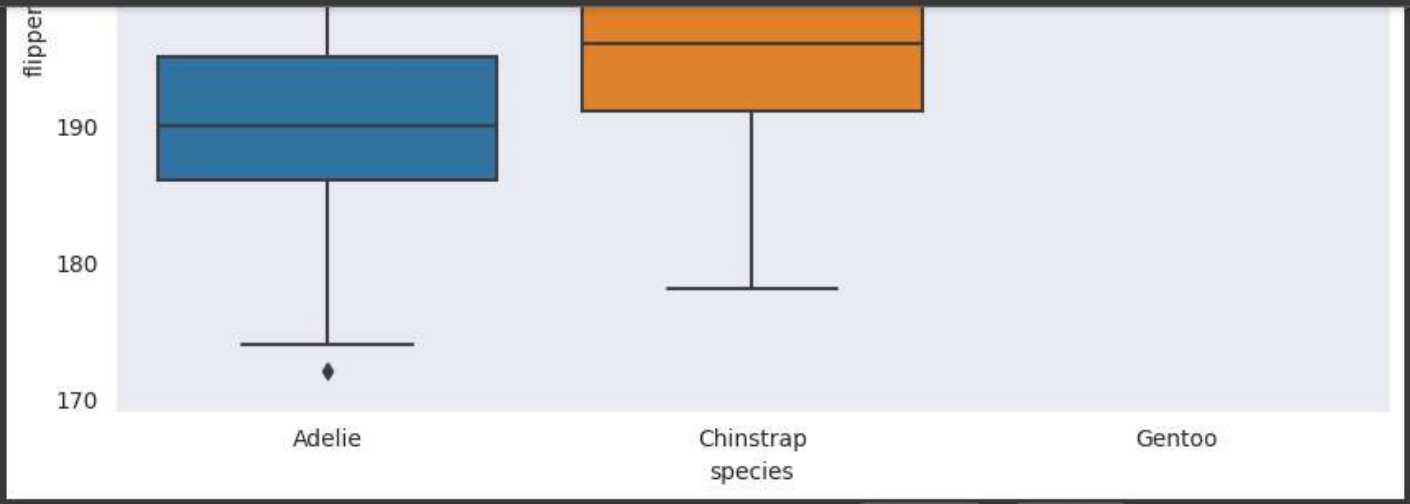
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



+ Code + Text

```
[ ]  def box(f):
         sns.boxplot(y = f, x = 'species', hue = 'sex',data = df)
         plt.title(f)
         plt.show()
     box('bill_length_mm')
     box('bill_depth_mm')
     box('flipper_length_mm')
     box('body_mass_g')
```

Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

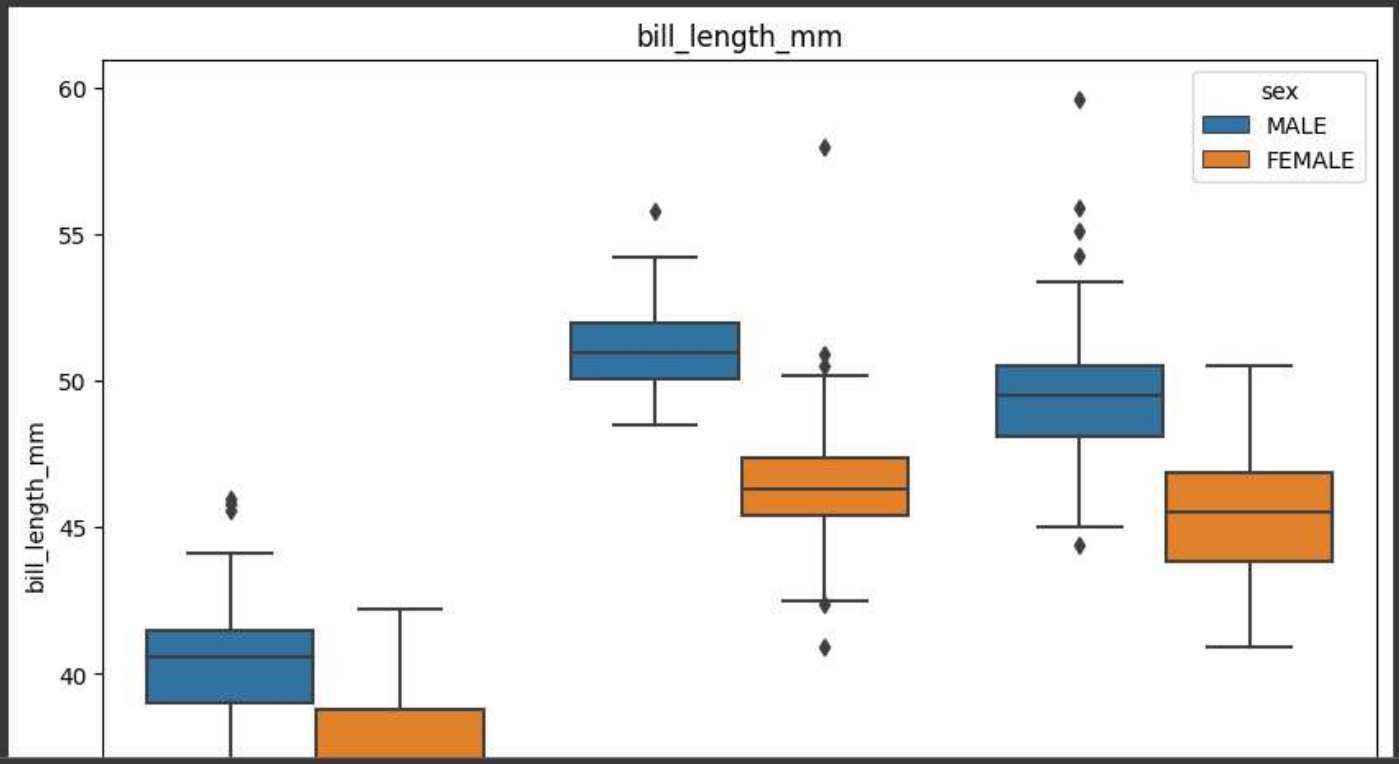
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

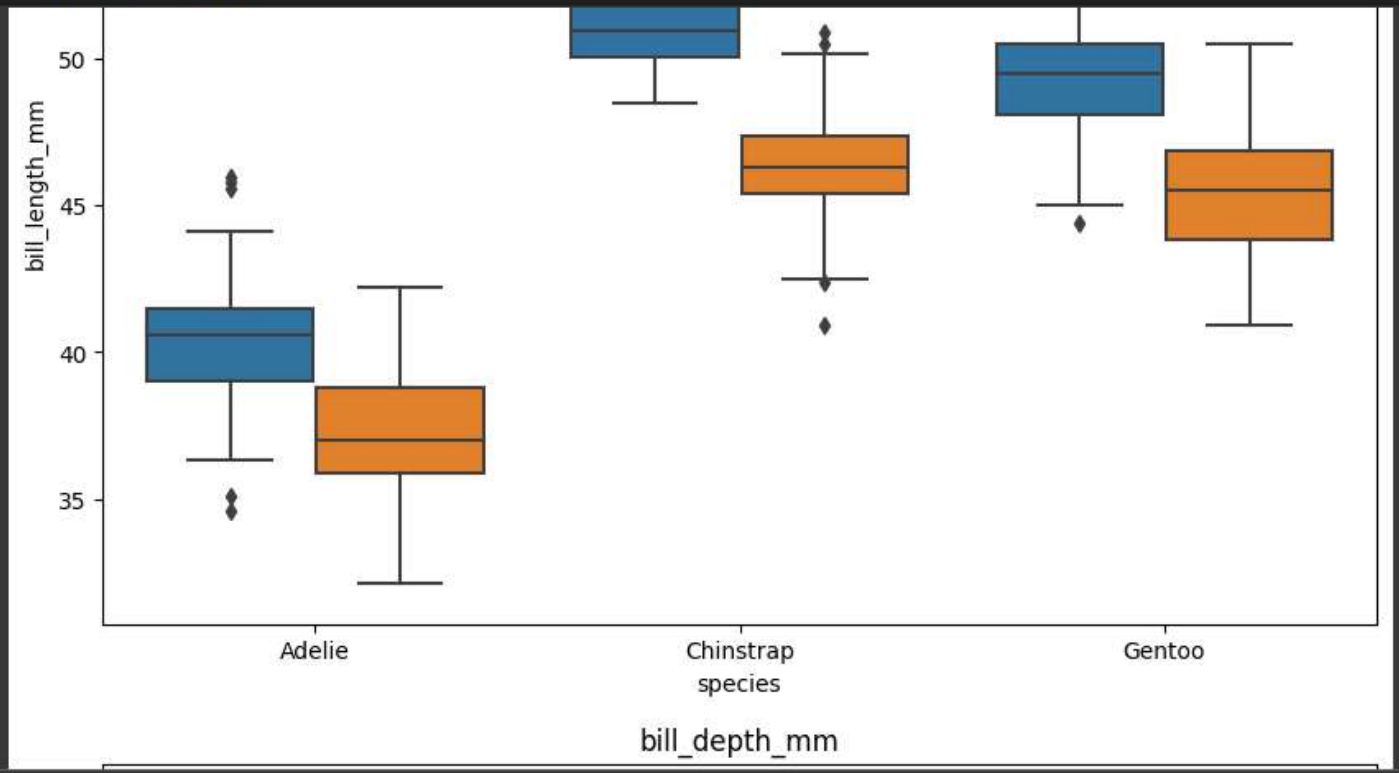
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

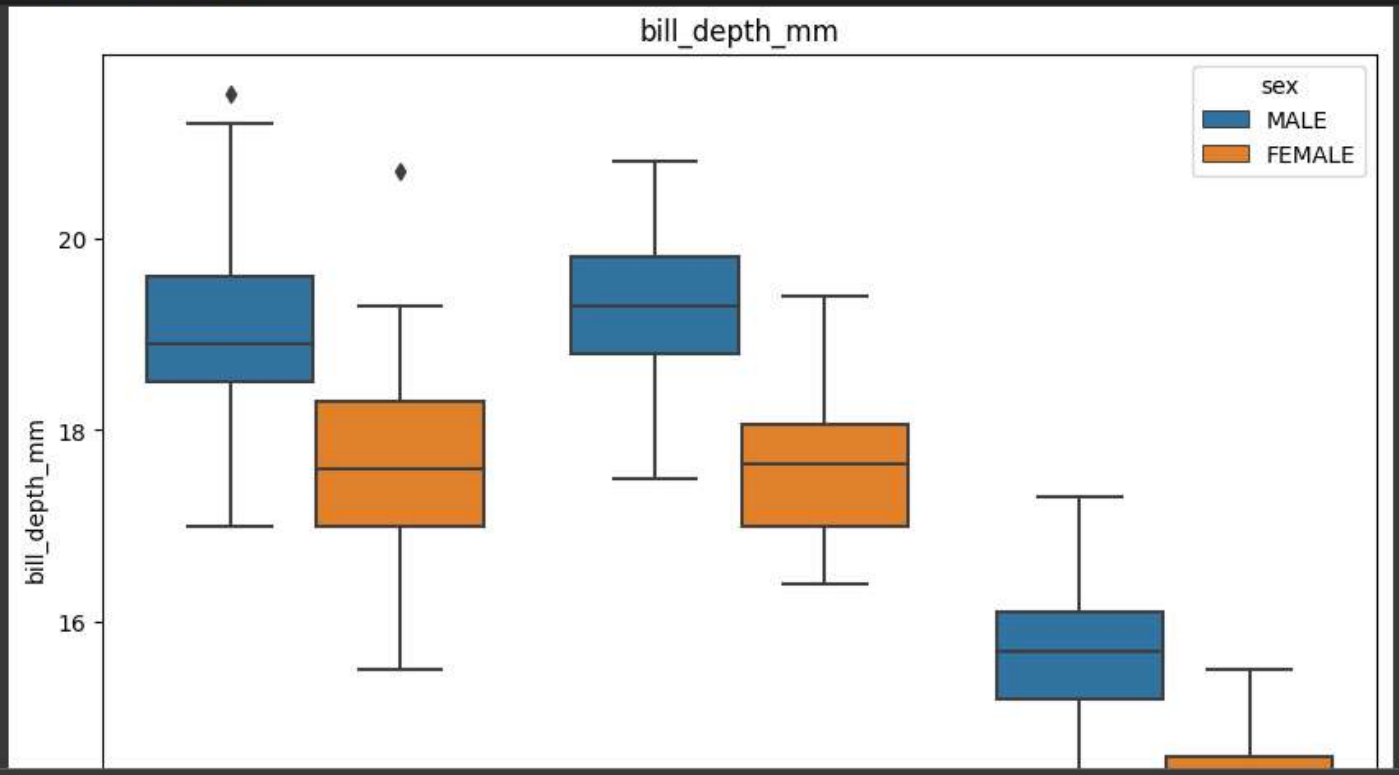
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:48 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

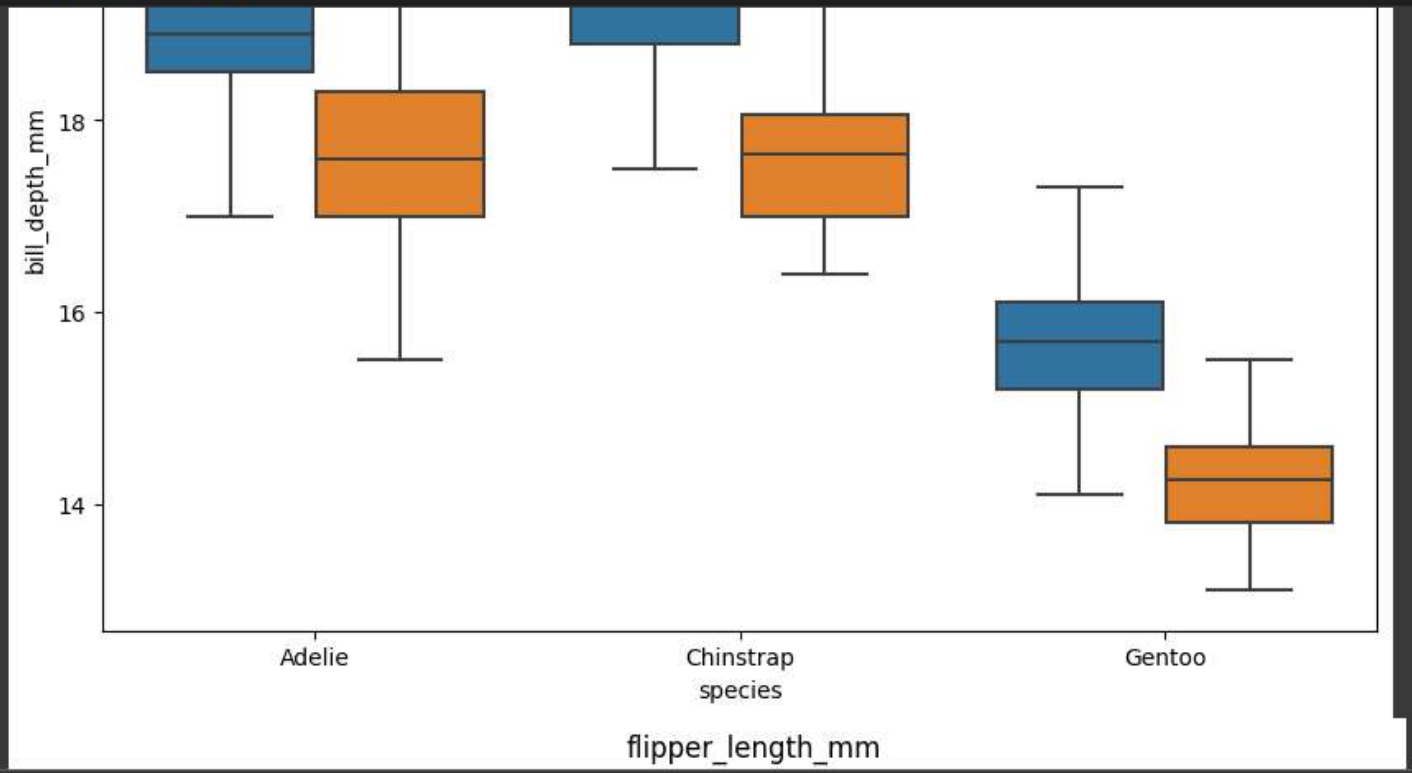
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

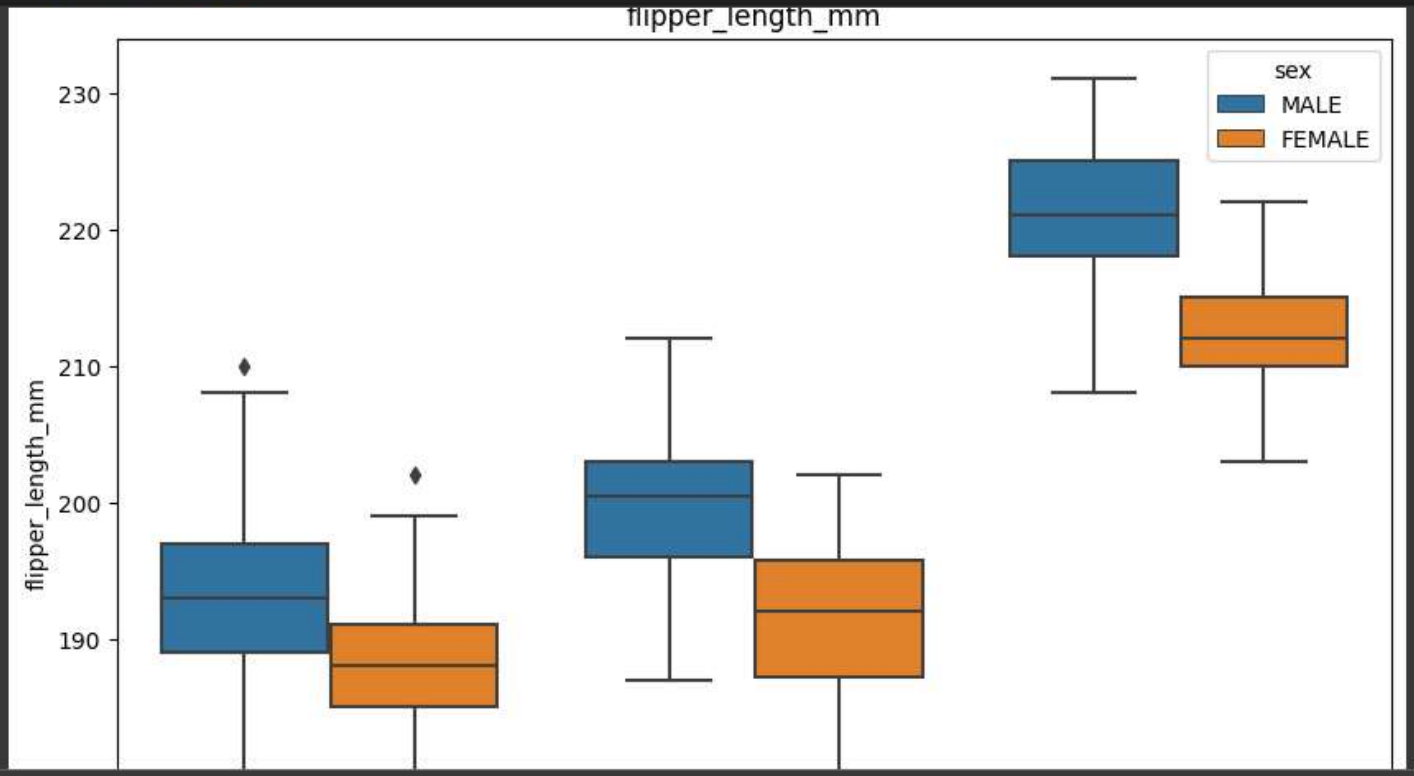
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

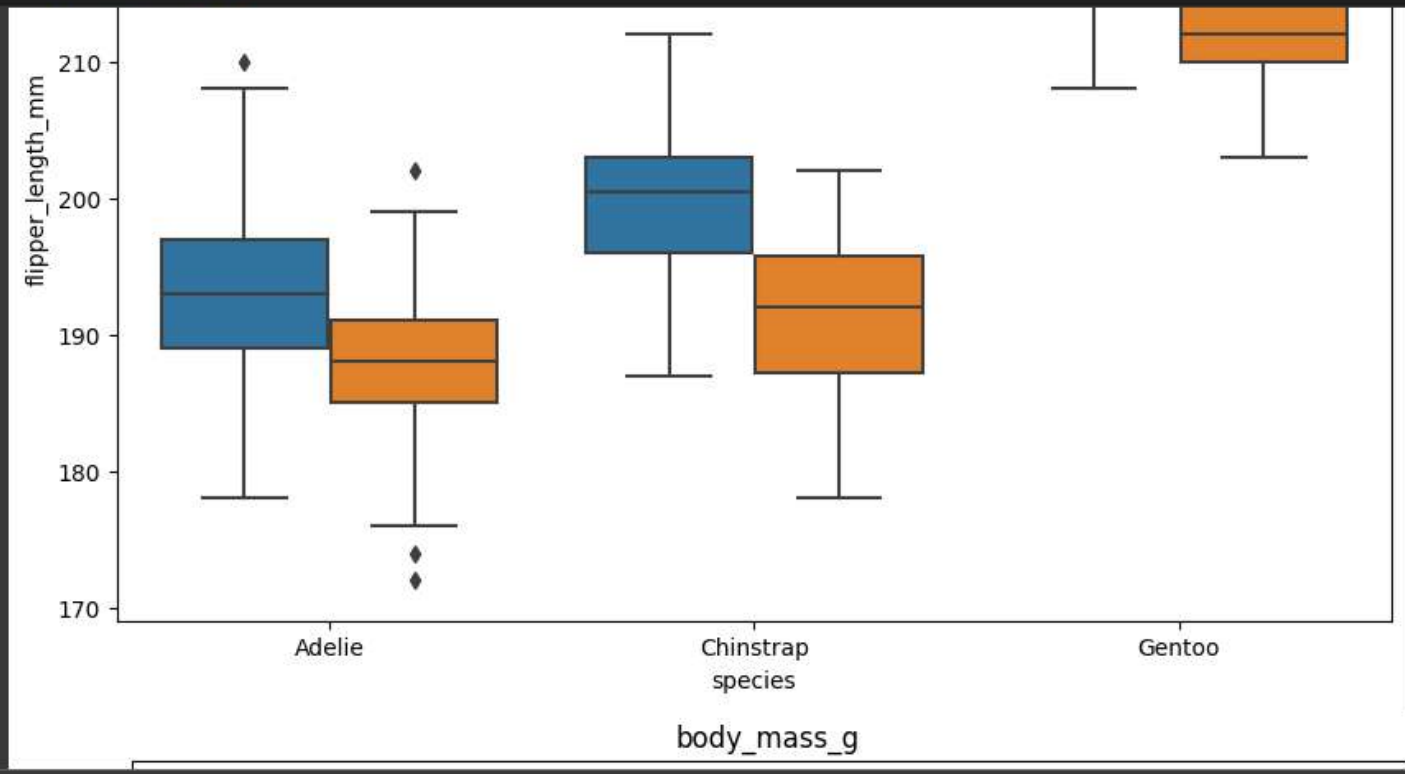
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
box('body_mass_g')
```



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

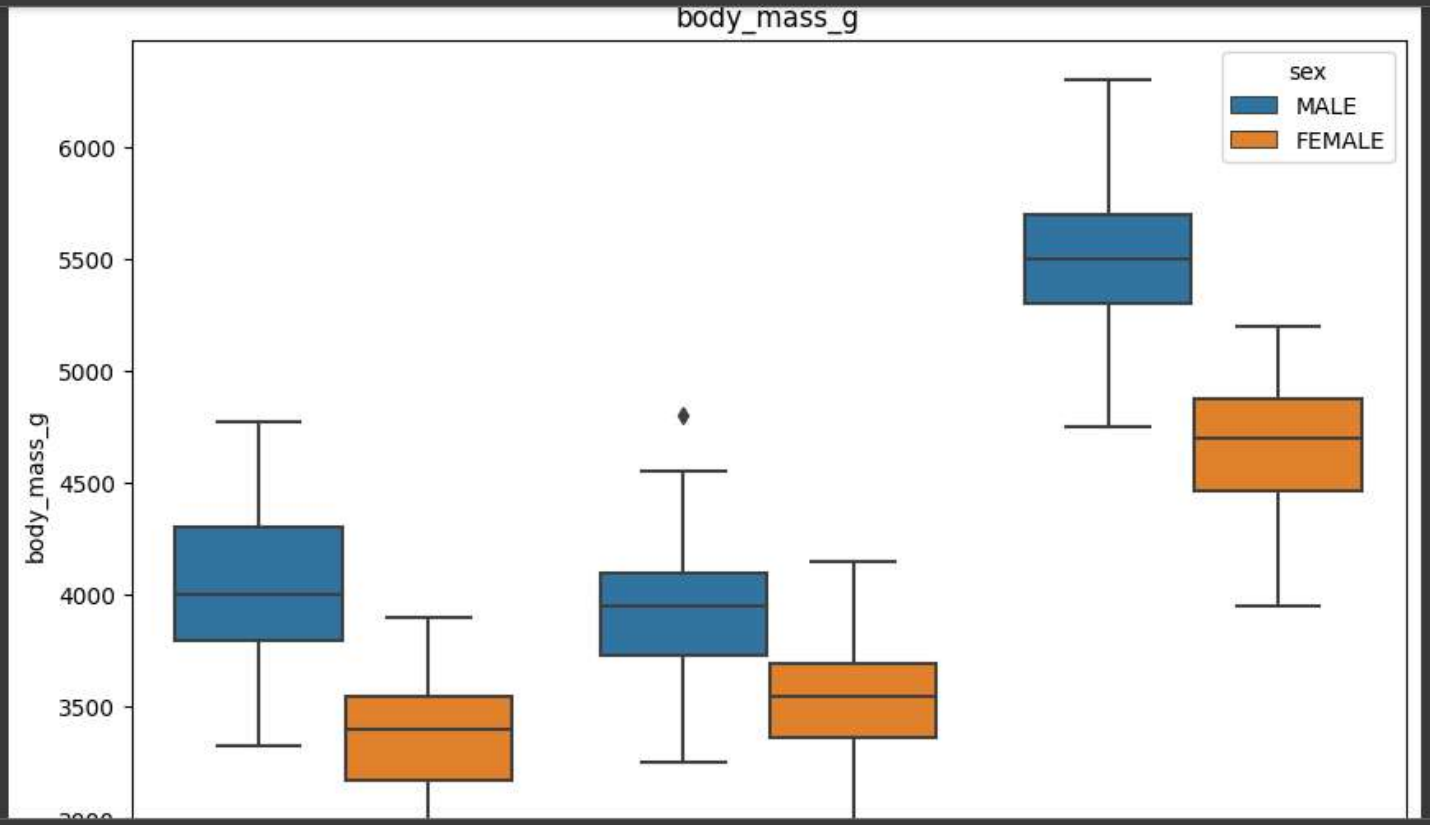
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

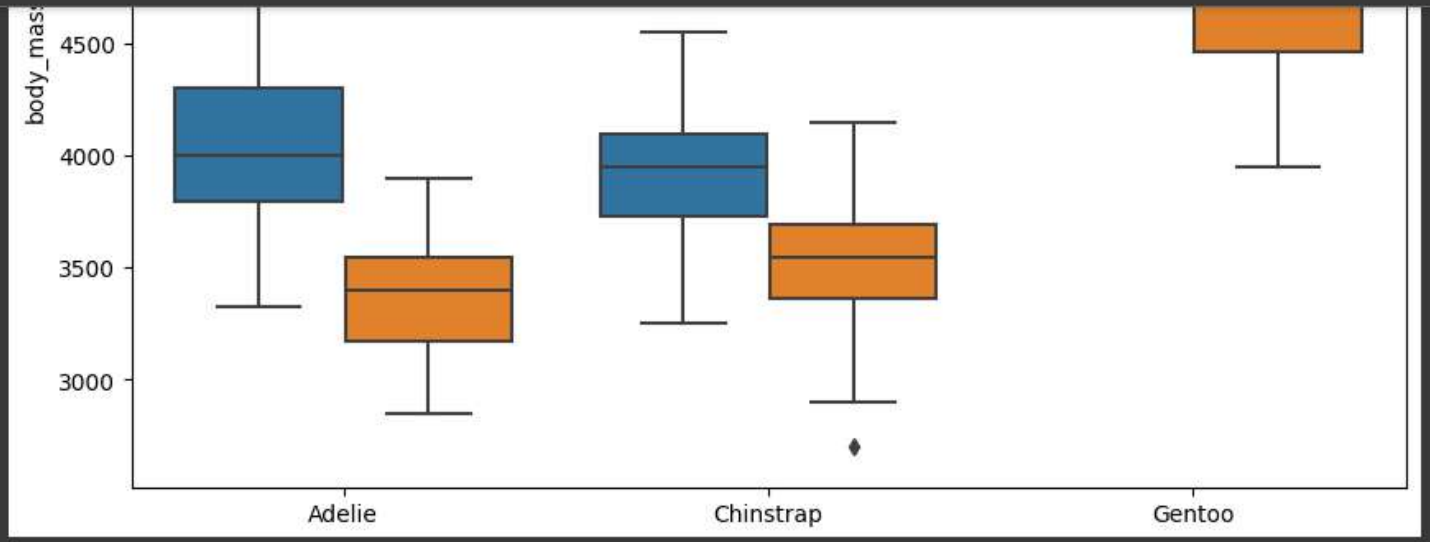
Insidious: The Red... | New Tab

Assignment-III.ipynb

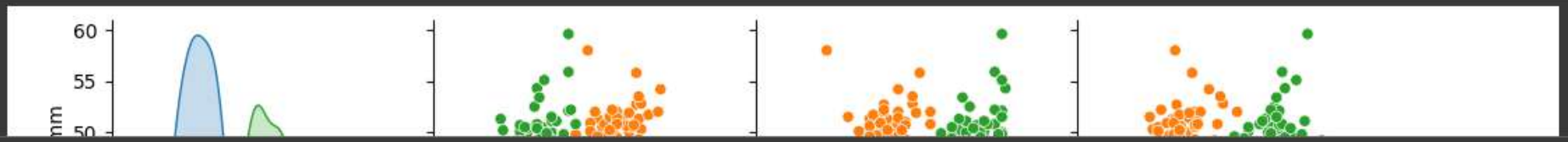
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect




```
sns.pairplot(df, hue = 'species')
plt.show()
```



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

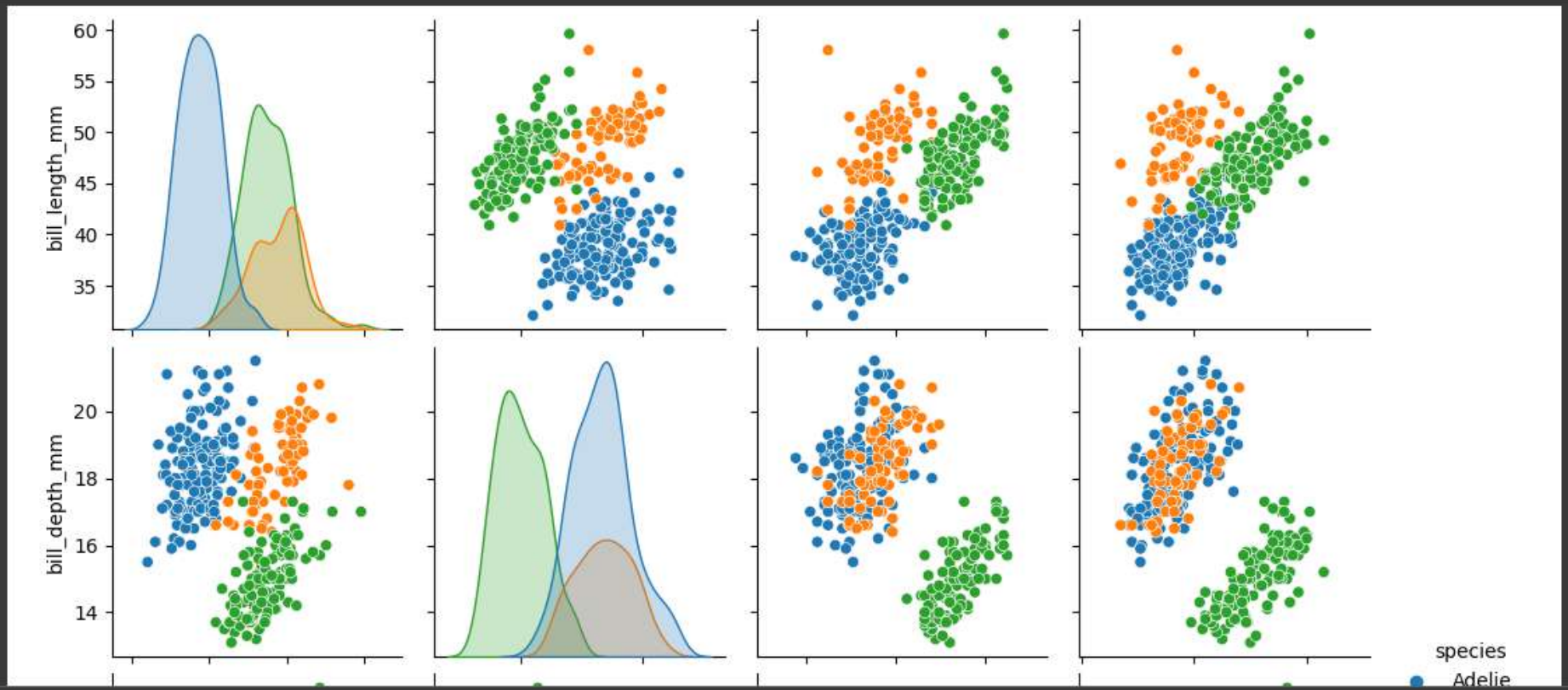
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

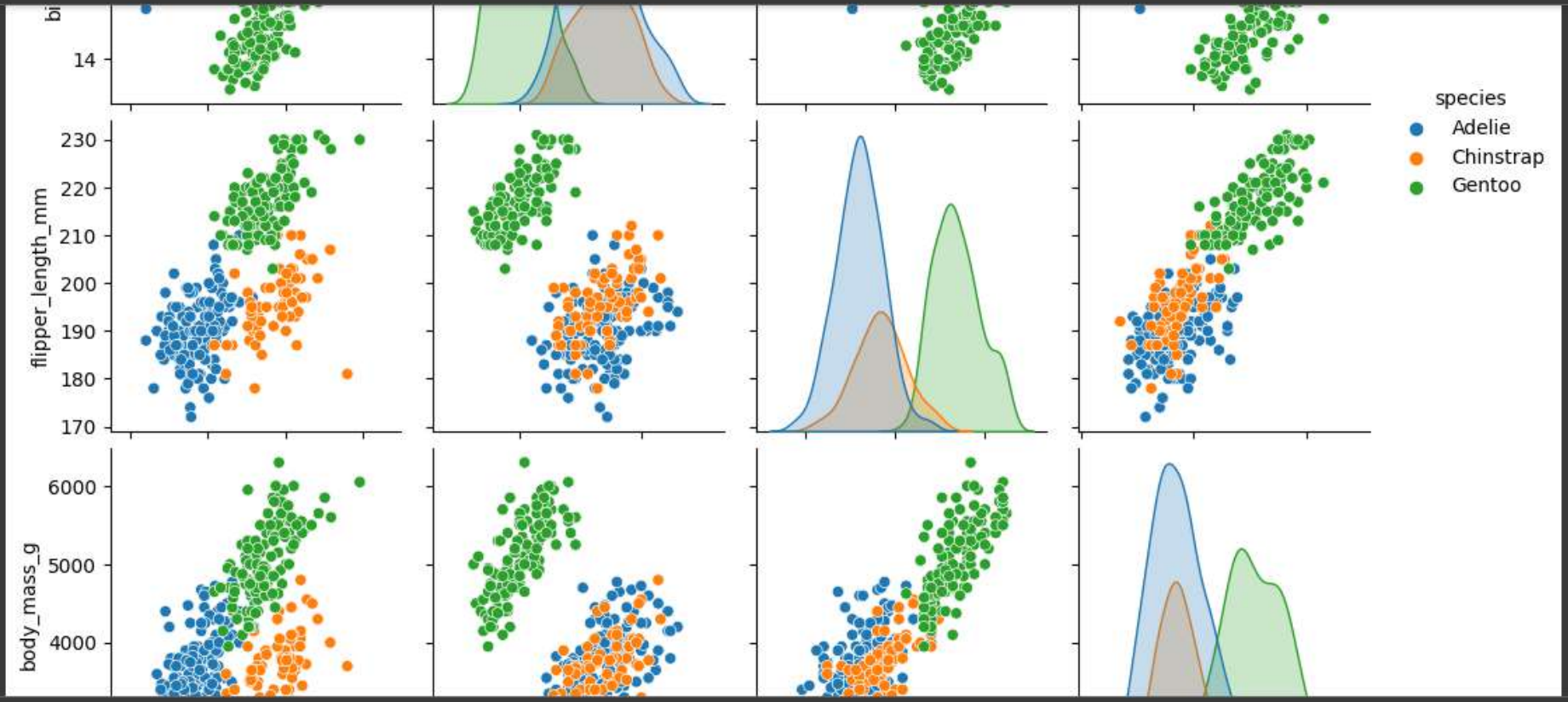
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

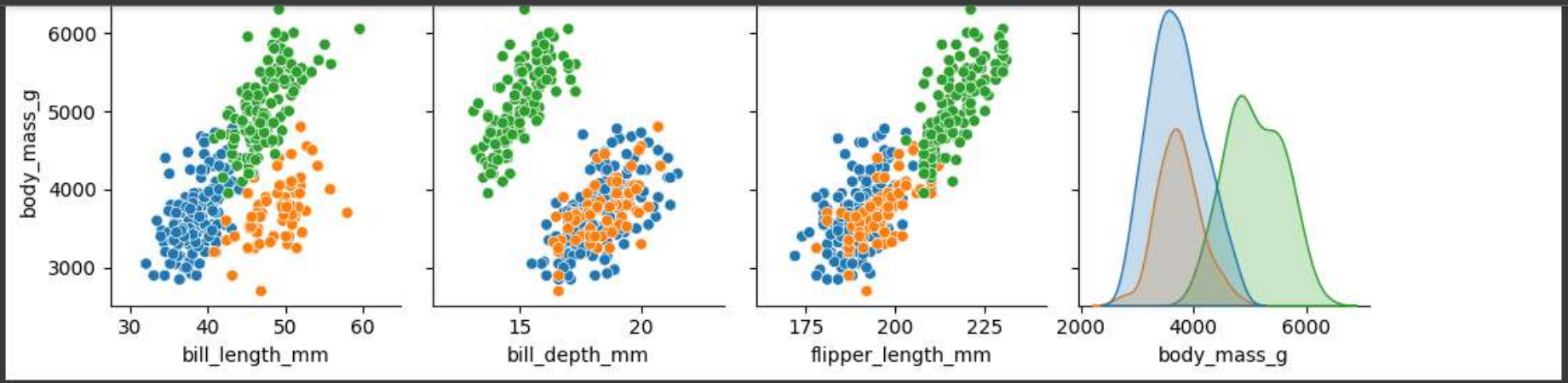
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]




```
df1 = df[['bill_length_mm', 'bill_depth_mm','flipper_length_mm']]
sns.boxplot(data=df1, width=0.5,fliersize=5)
```

<Axes: >

Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

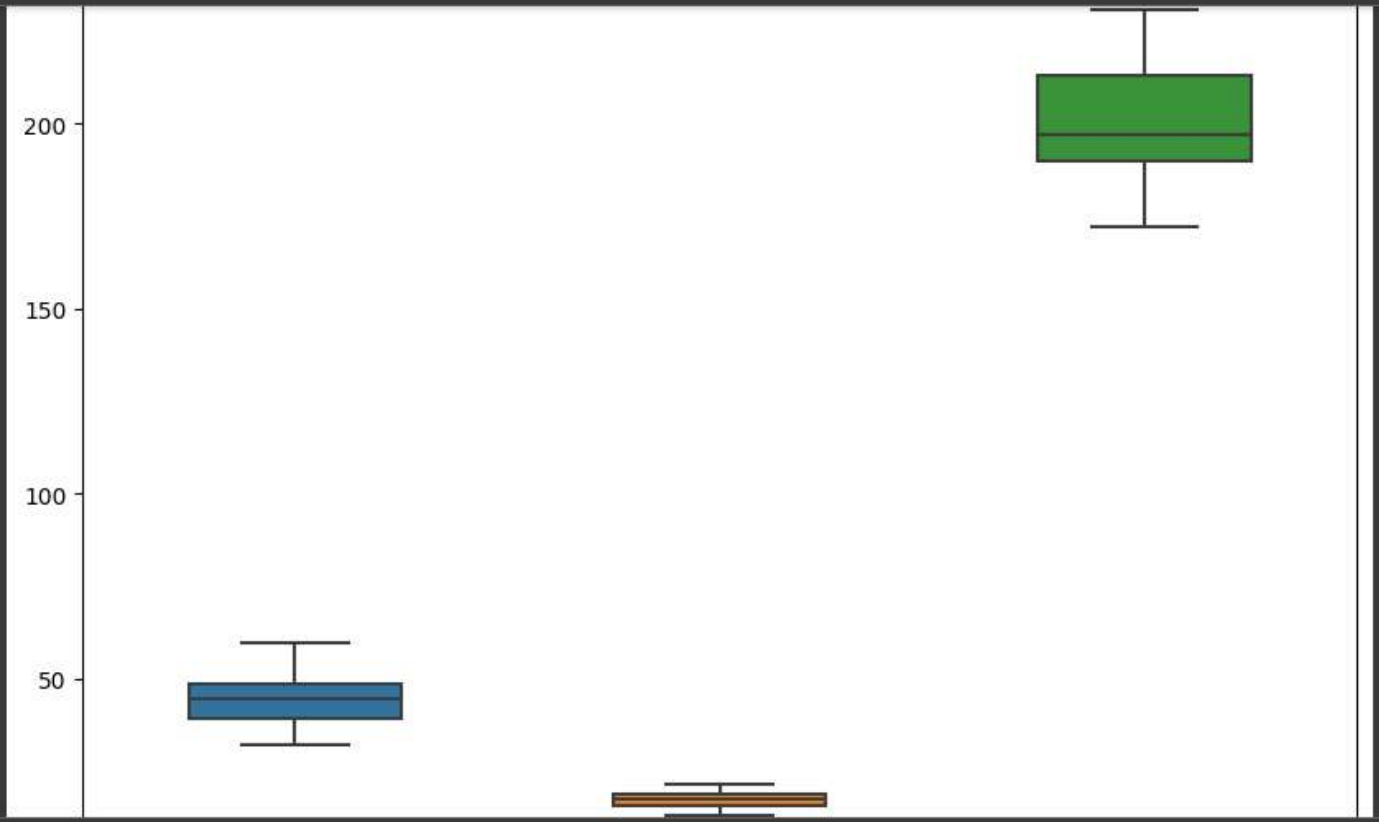
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

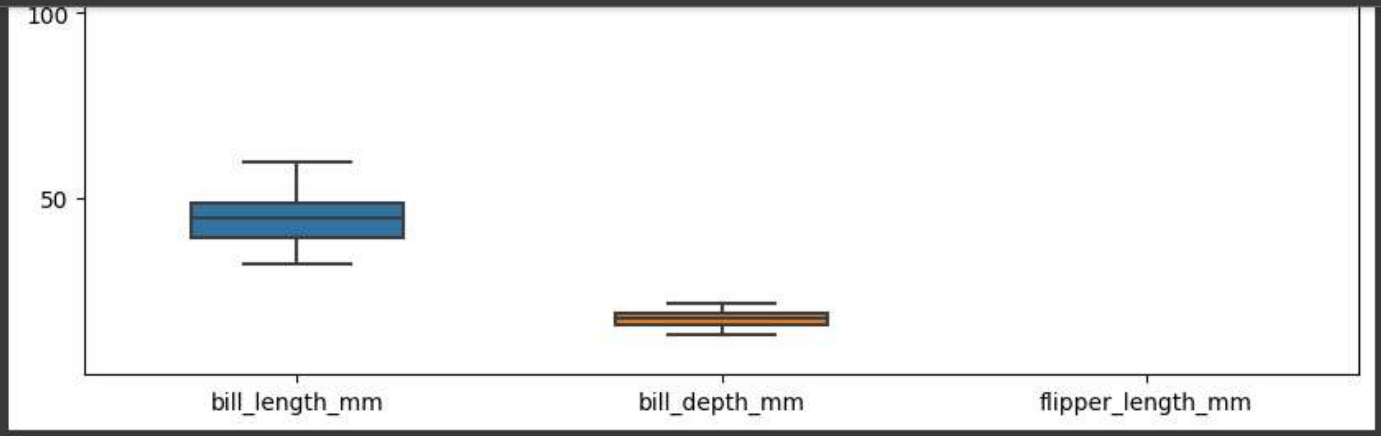
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

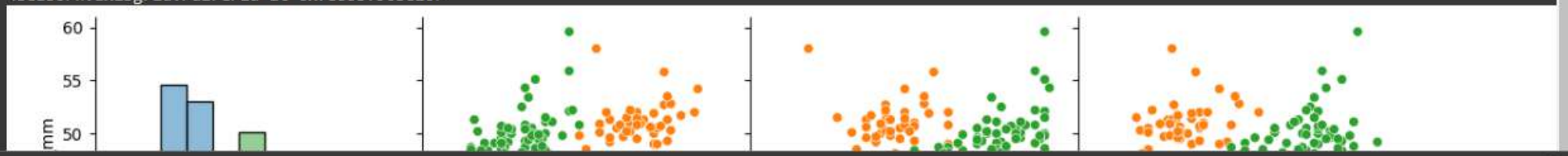
+ Code + Text Connect

[ ]



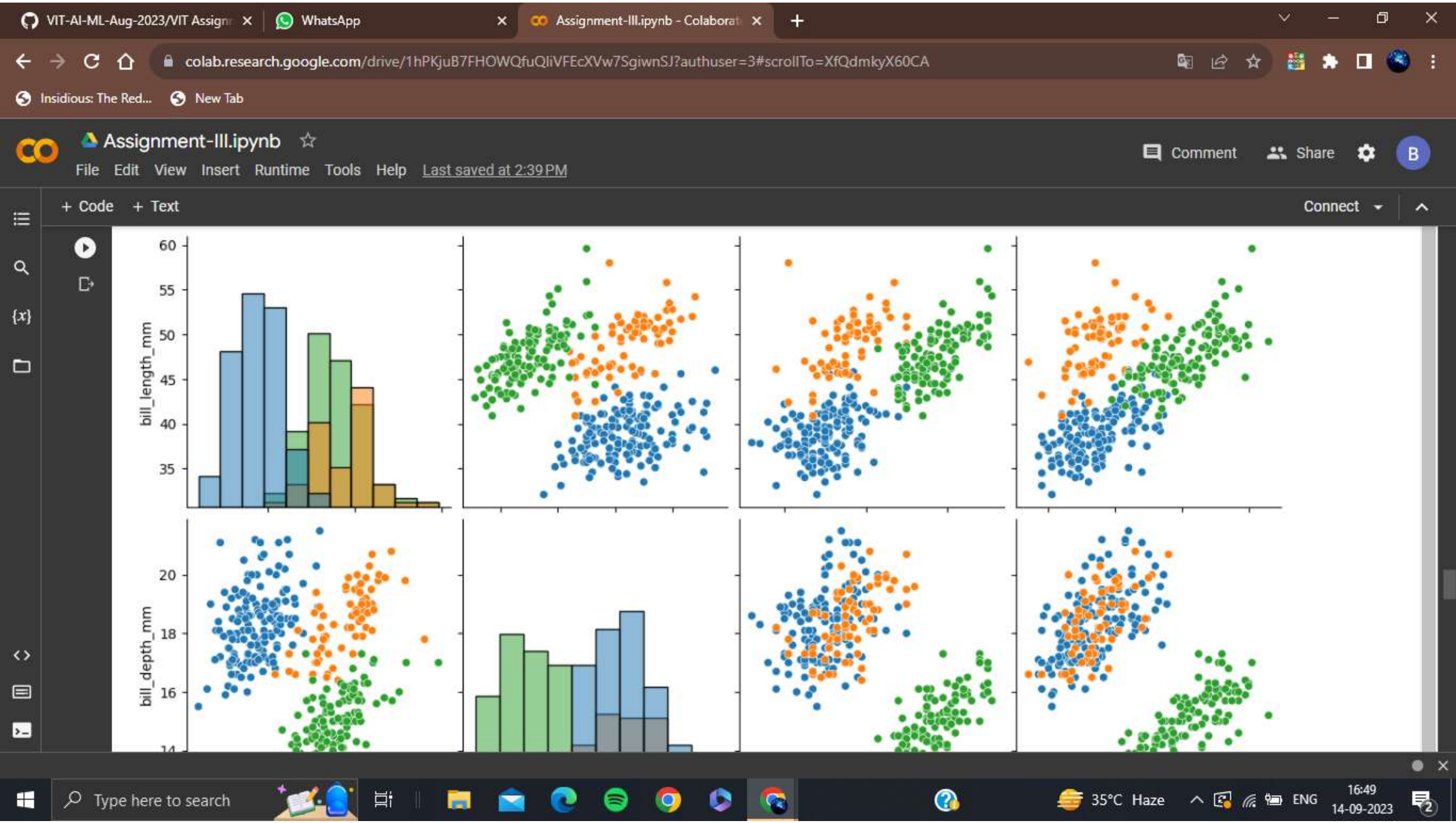

```
sns.pairplot(df, hue="species", size=3,diag_kind="hist")
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/axisgrid.py:2095: UserWarning: The `size` parameter has been renamed to `height`; please update your code.
  warnings.warn(msg, UserWarning)
<seaborn.axisgrid.PairGrid at 0x78355f96be20>
```



Type here to search

35°C Haze ENG 16:49 14-09-2023


VIT-AI-ML-Aug-2023/VIT Assign
WhatsApp
Assignment-III.ipynb - Colaborat
colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA
Insidious: The Red...
New Tab
Assignment-III.ipynb
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM
Comment
Share
B
+ Code + Text
Connect
bill_length_mm
bill_depth_mm
60
55
50
45
40
35
20
18
16
Type here to search
35°C Haze
ENG
16:49
14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

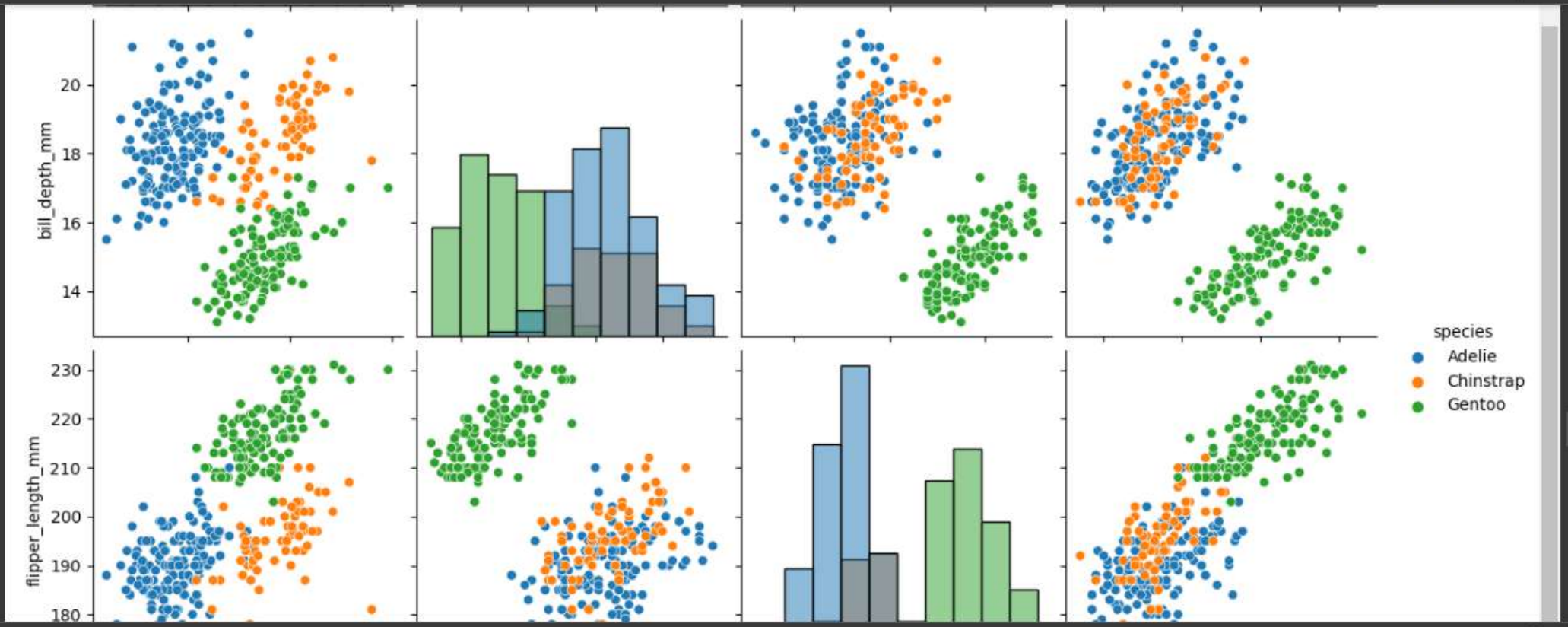
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:49 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

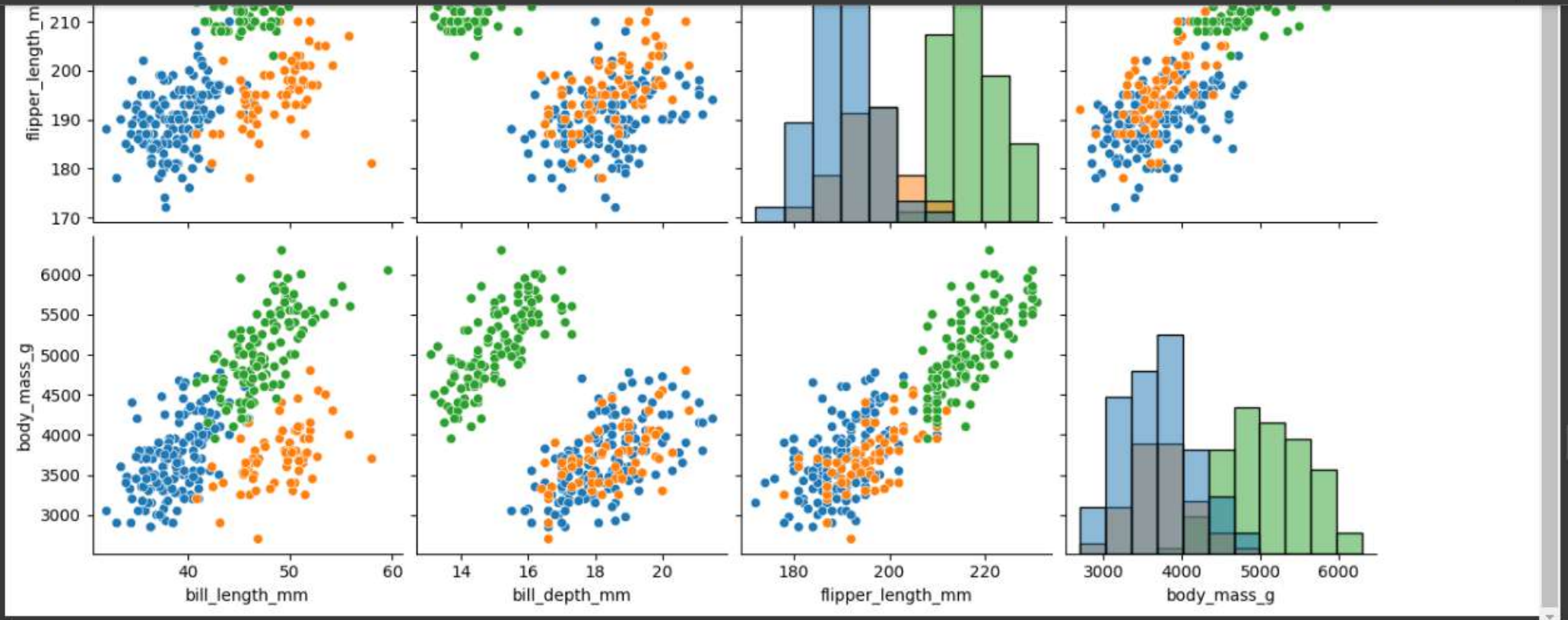
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:50 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

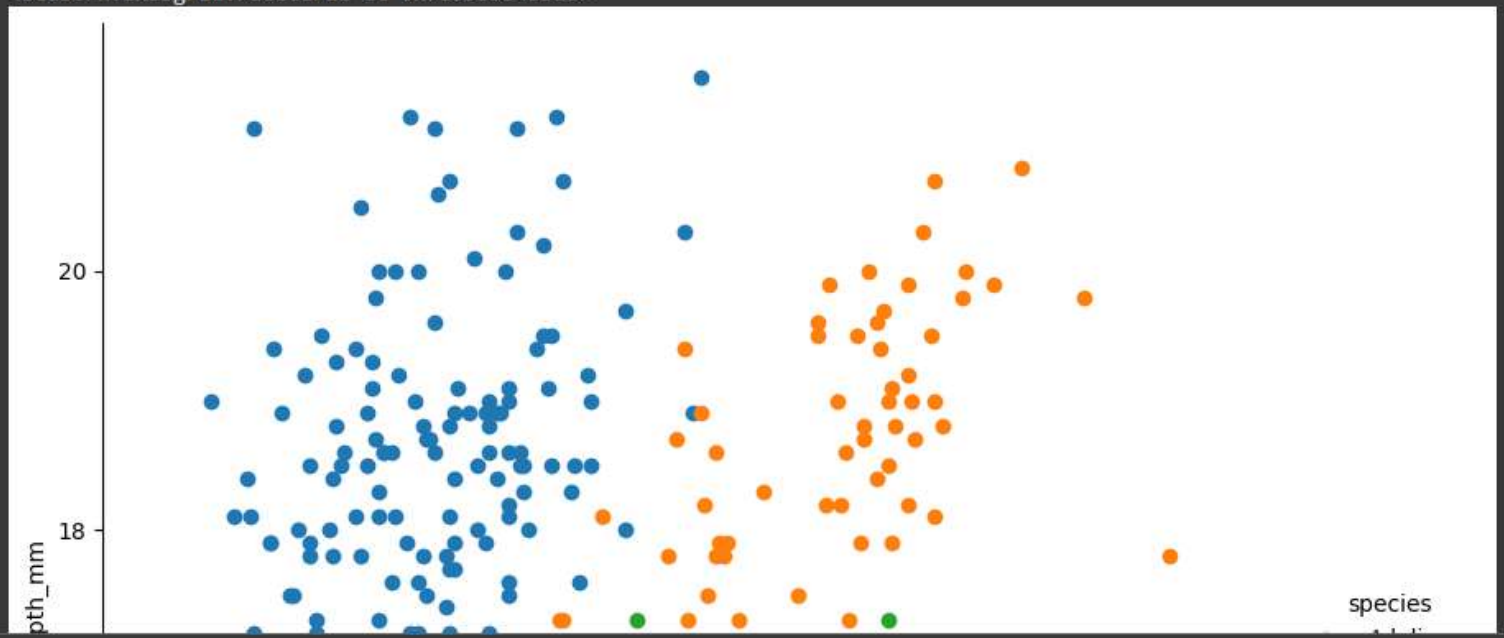
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

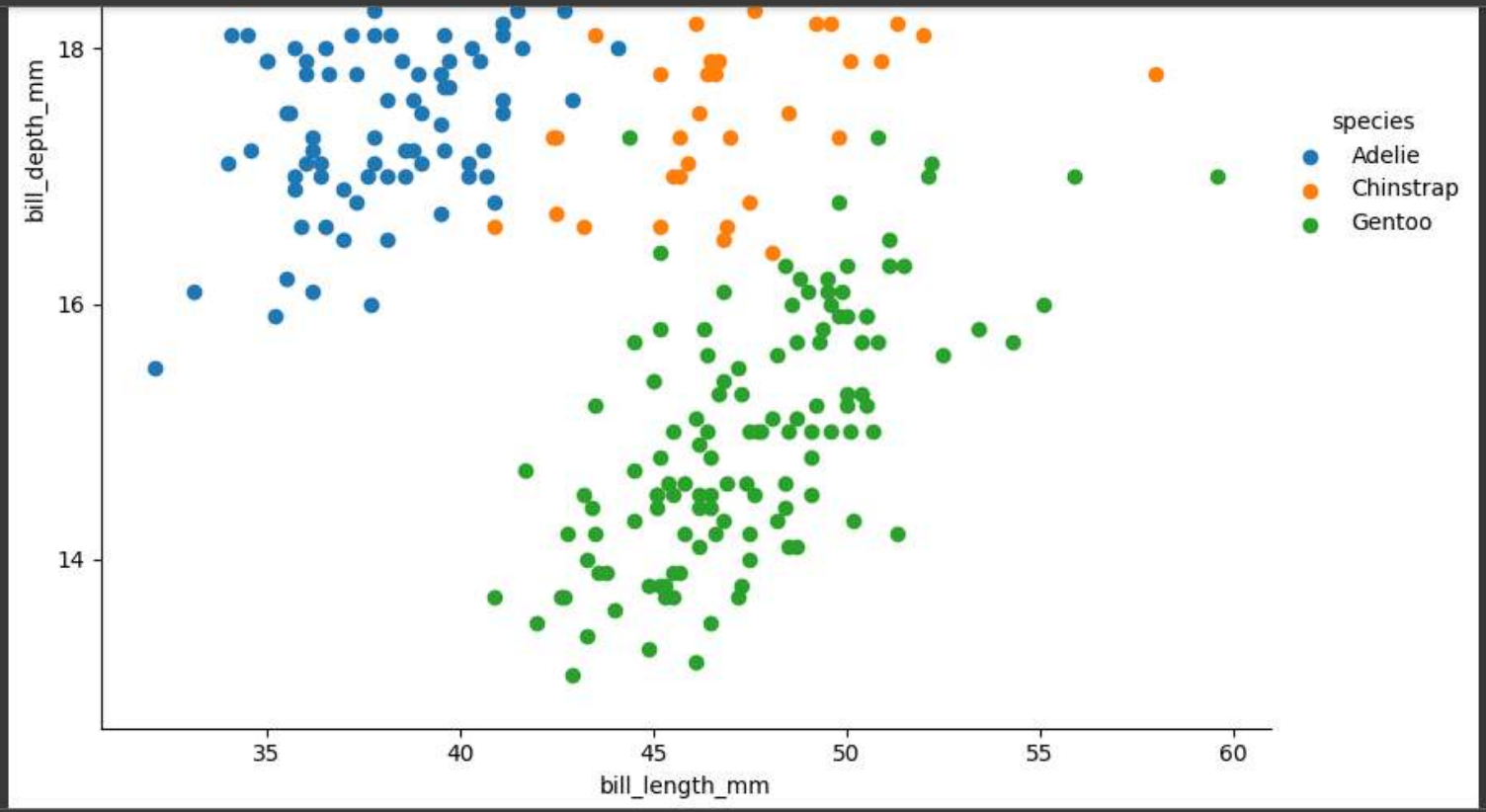
```
sns.FacetGrid(df, hue="species", height=8) \
   .map(plt.scatter, "bill_length_mm", "bill_depth_mm") \
   .add_legend()
```

```
<seaborn.axisgrid.FacetGrid at 0x78355954d5d0>
```



Type here to search

35°C Haze ENG 16:50 14-09-2023


bill_depth_mm
18
16
14
35
40
45
50
55
60
bill_length_mm
species
Adelie
Chinstrap
Gentoo

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

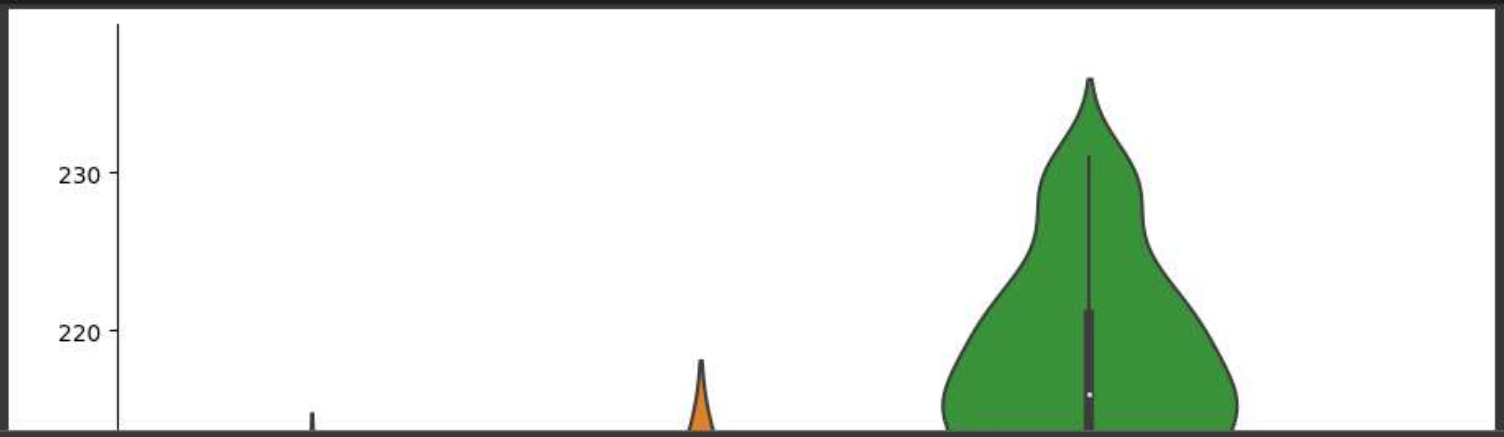
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
sns.FacetGrid(df, hue="species", height=8) \
   .map(plt.scatter, "bill_length_mm", "flipper_length_mm") \
   .add_legend()
ax = sns.violinplot(x="species", y="flipper_length_mm", data=df,height=8)
sns.FacetGrid(df, hue="species", height=6,) \
   .map(sns.kdeplot, "flipper_length_mm",shade=True) \
   .add_legend()
sns.FacetGrid(df, hue="species", height=8) \
   .map(plt.scatter, "body_mass_g", "flipper_length_mm") \
   .add_legend()
```



Type here to search

35°C Haze ENG 16:50 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

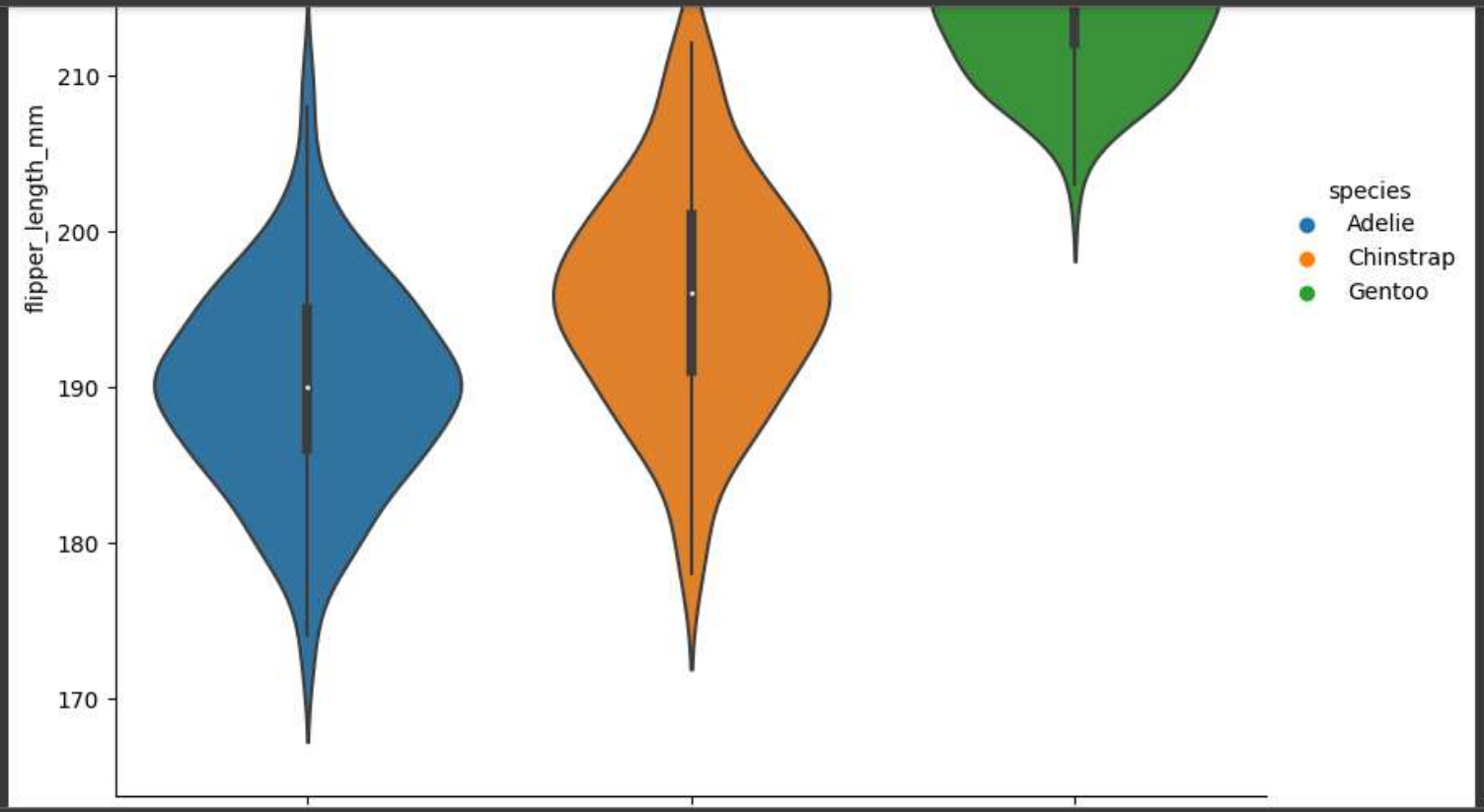
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:50 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

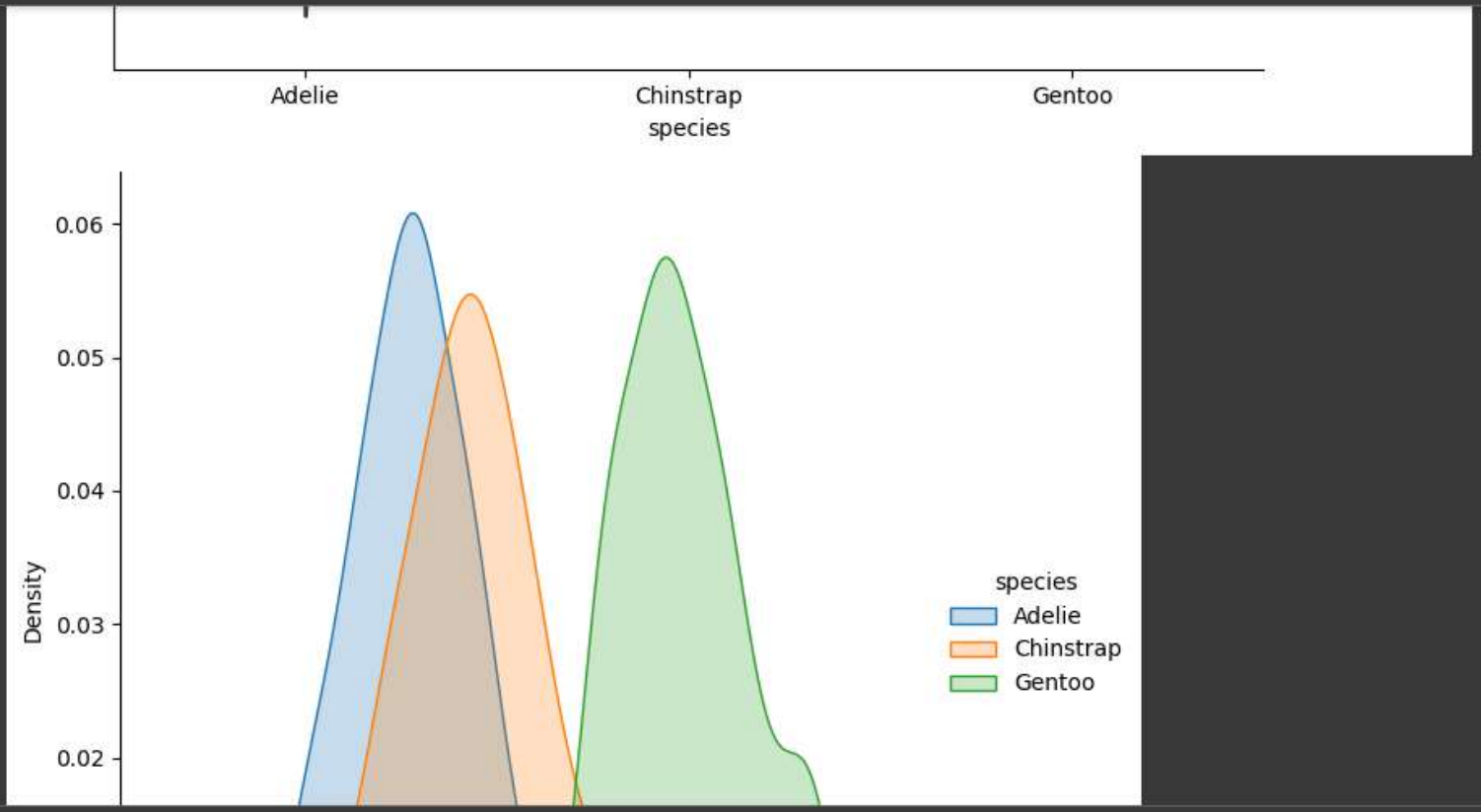
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:50 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

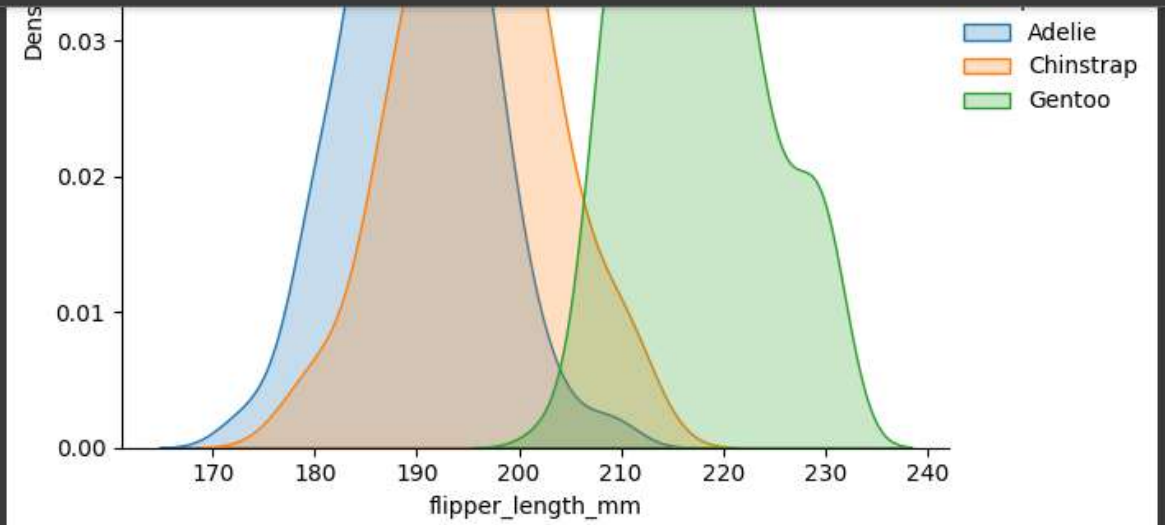
Insidious: The Red... | New Tab

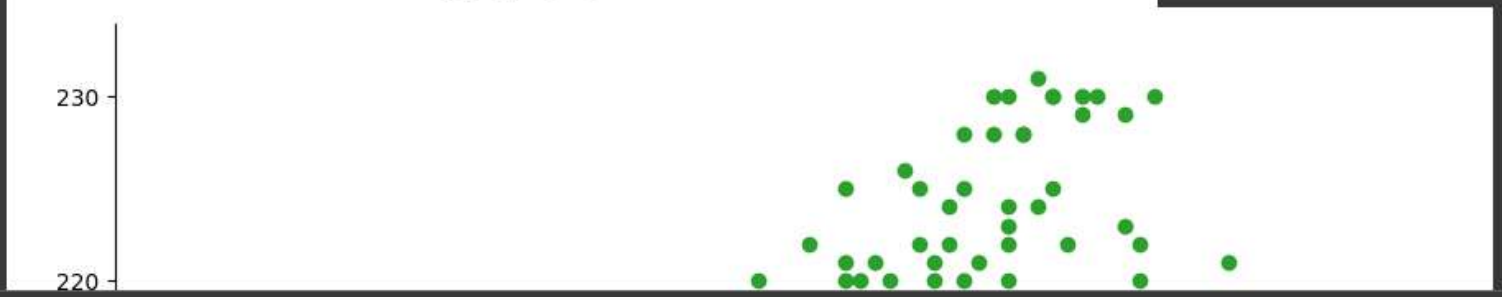
Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

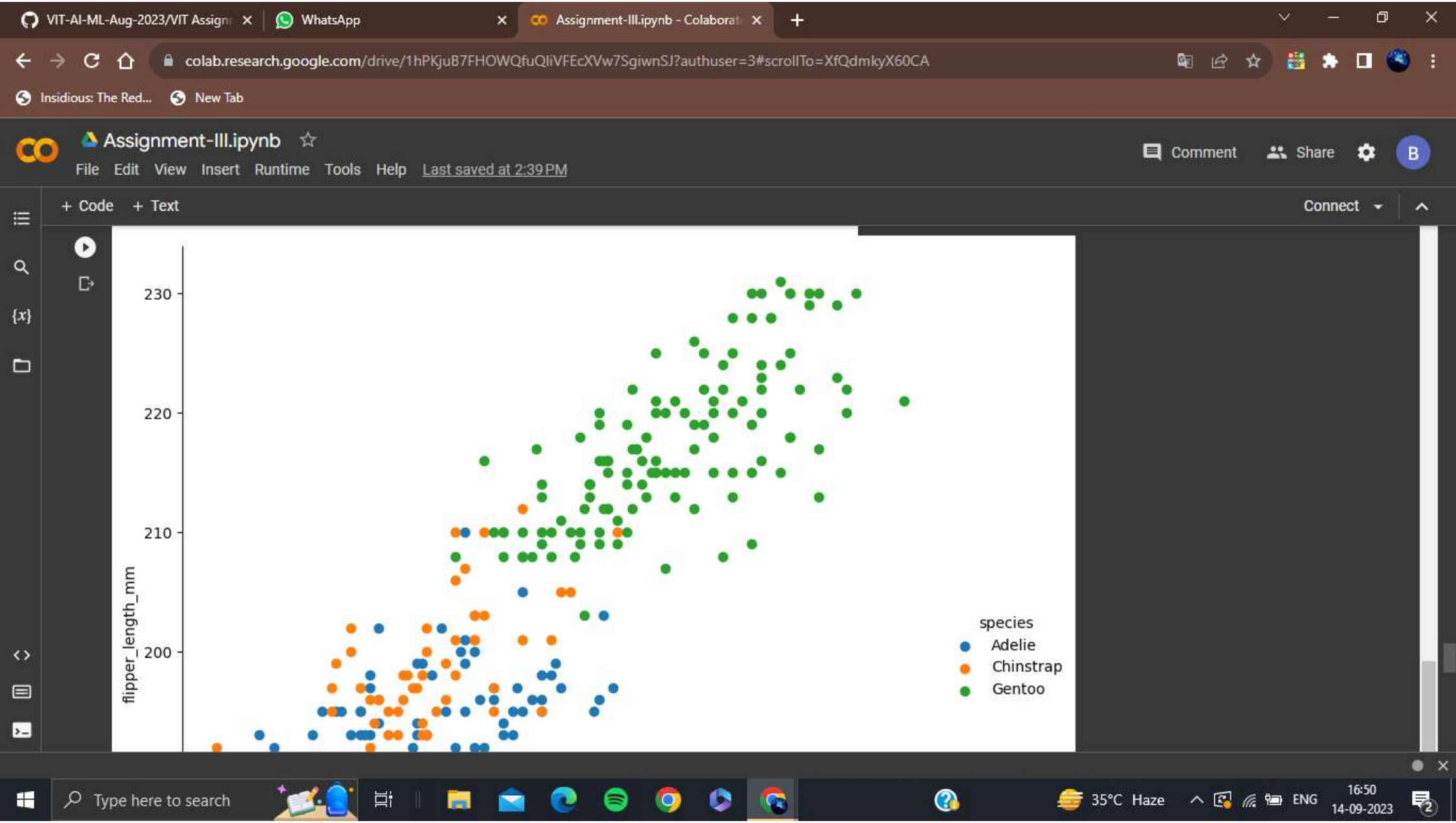
+ Code + Text Connect





Type here to search

35°C Haze ENG 16:50 14-09-2023


VIT-AI-ML-Aug-2023/VIT Assign
WhatsApp
Assignment-III.ipynb - Colaborat
colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA
Insidious: The Red...
New Tab
Assignment-III.ipynb
File Edit View Insert Runtime Tools Help Last saved at 2:39 PM
Comment
Share
B
+ Code + Text
Connect
flipper_length_mm
230
220
210
200
species
Adelie
Chinstrap
Gentoo
Type here to search
35°C Haze
ENG
16:50
14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

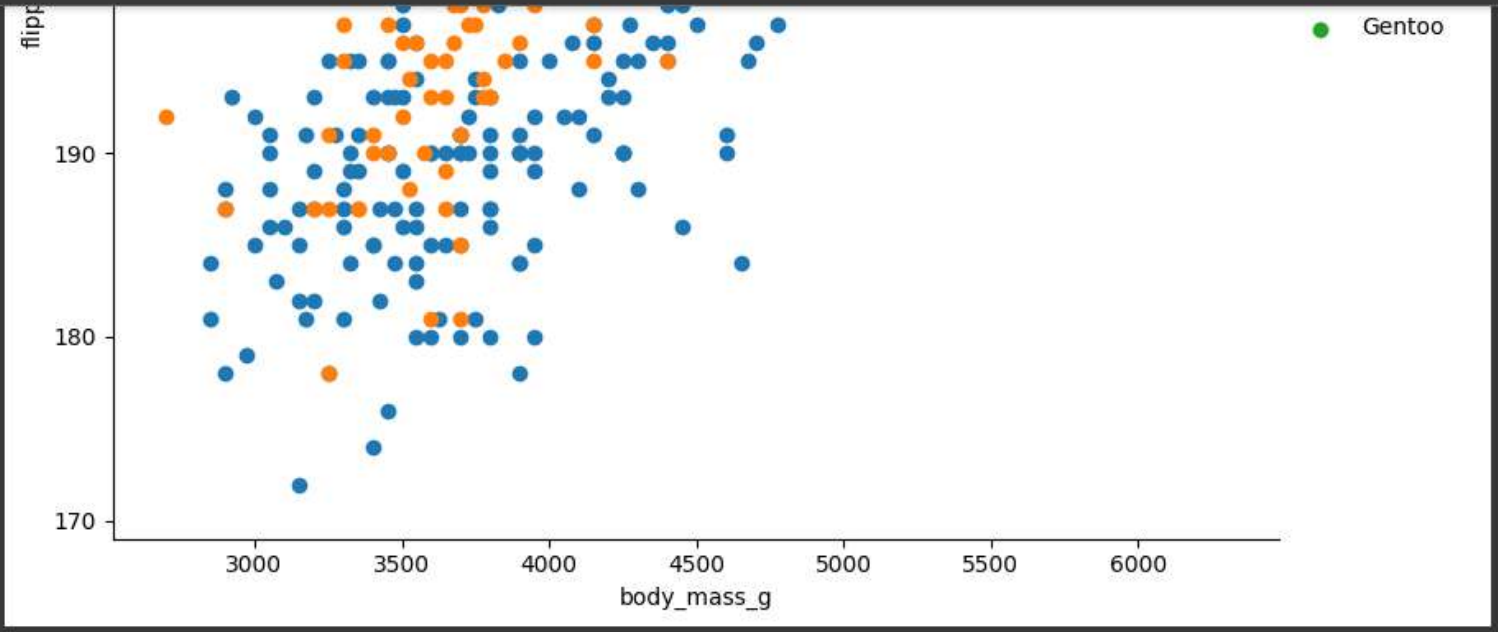
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect




```
[ ] correlation_matrix=df.corr()
    correlation_matrix
    sns.set_style('dark')
    sns.heatmap(correlation_matrix,annot=True,linecolor='white',linewidths=5,cmap="YlGnBu")
```

Type here to search

35°C Haze ENG 16:51 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

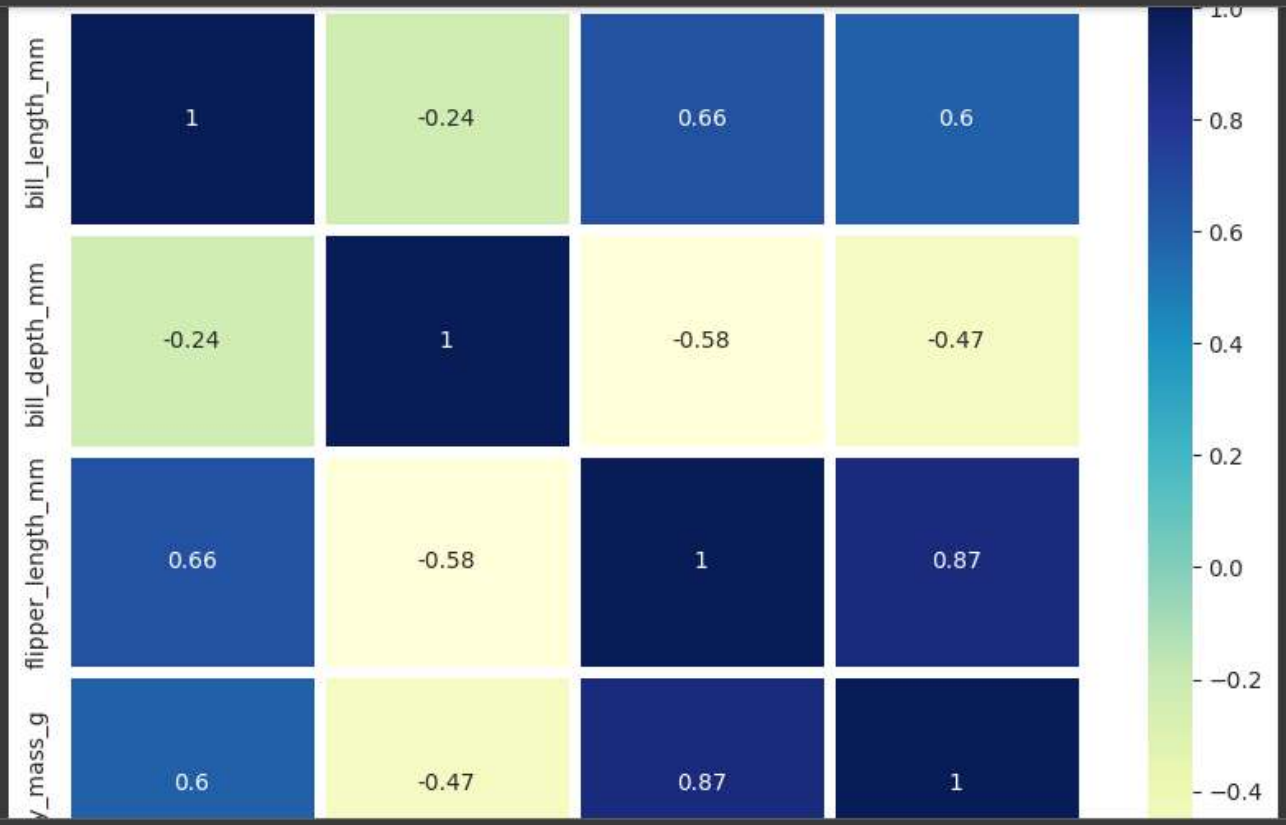
Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect



Type here to search

35°C Haze ENG 16:51 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

[ ]


```
def missing_values_table(df):
        mis_val = df.isnull().sum()

        mis_val_percent = 100 * df.isnull().sum() / len(df)

        mis_val_table = pd.concat([mis_val, mis_val_percent], axis=1)

        mis_val_table_ren_columns = mis_val_table.rename(
        columns = {0 : 'Missing Values', 1 : '% of Total Values'})

        mis_val_table_ren_columns = mis_val_table_ren_columns[
            mis_val_table_ren_columns.iloc[:,1] != 0].sort_values(
        '% of Total Values', ascending=False).round(1)

        print ("Your selected dataframe has " + str(df.shape[1]) + " columns.\n"  "There are " + str(mis_val_table_ren_columns.shape[0]) +
              " columns that have missing values.")
```

Type here to search 35°C Haze ENG 16:51 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | (1) WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

```
        mis_val_table_ren_columns = mis_val_table.rename(
        columns = {0 : 'Missing Values', 1 : '% of Total Values'})

        mis_val_table_ren_columns = mis_val_table_ren_columns[
            mis_val_table_ren_columns.iloc[:,1] != 0].sort_values(
        '% of Total Values', ascending=False).round(1)

        print ("Your selected dataframe has " + str(df.shape[1]) + " columns.\n"  "There are " + str(mis_val_table_ren_columns.shape[0]) +
              " columns that have missing values.")
        return mis_val_table_ren_columns
missing= missing_values_table(df)
missing
```

```
Your selected dataframe has 7 columns.
There are 5 columns that have missing values.
```

	Missing Values	% of Total Values
sex	11	3.2
bill_length_mm	2	0.6
bill_depth_mm	2	0.6
flipper_length_mm	2	0.6
body_mass_g	2	0.6

Type here to search

35°C Haze ENG 16:51 14-09-2023

VIT-AI-ML-Aug-2023/VIT Assign | (1) WhatsApp | Assignment-III.ipynb - Colaborat

colab.research.google.com/drive/1hPKjuB7FHOWQfuQliVFEcXVw7SgiwnSJ?authuser=3#scrollTo=XfQdmkyX60CA

Insidious: The Red... | New Tab

Assignment-III.ipynb

File Edit View Insert Runtime Tools Help Last saved at 2:39 PM

Comment Share B

+ Code + Text Connect

flipper_length_mm	2	0.6
body_mass_g	2	0.6

```
[ ] from sklearn.impute import SimpleImputer
    imputer = SimpleImputer(strategy='most_frequent')
    df.iloc[:,:] = imputer.fit_transform(df)
    df.isnull().sum()
```

```
species            0
island             0
bill_length_mm     0
bill_depth_mm      0
flipper_length_mm  0
body_mass_g        0
sex                0
dtype: int64
```

Type here to search 35°C Haze ENG 16:51 14-09-2023