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In [1]: print('Aim - Implement a Simple Linear model for Addition of Two Numbers Using Machine Learning (With GUI).')
print('Aryan Shaikh 221P008 34 Comps')
import pandas as pd
df = pd.read_csv("./add.csv")
df.head()
```

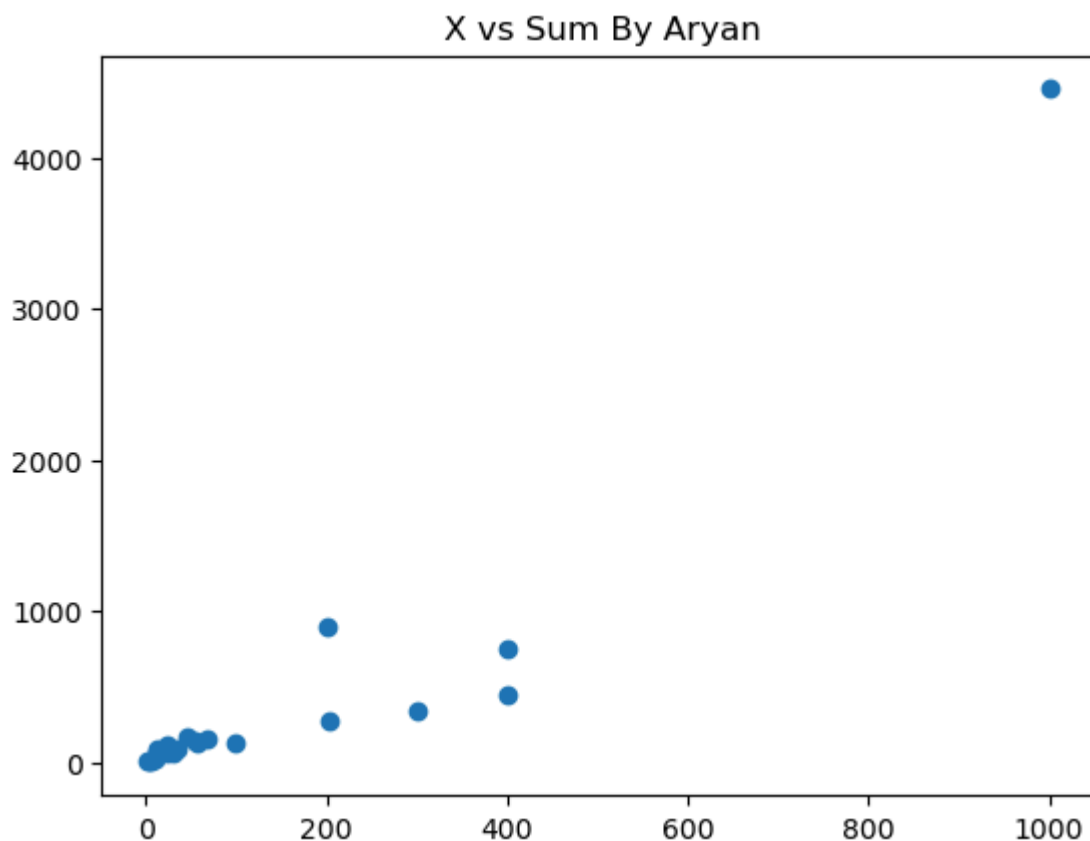
Aim - Implement a Simple Linear model for Addition of Two Numbers Using Machine Learning (With GUI).
Aryan Shaikh 221P008 34 Comps

```
Out[1]:
```

	x	y	sum
0	1.0	1.0	2.0
1	4.0	4.0	8.0
2	6.0	6.0	12.0
3	10.0	10.0	20.0
4	30.0	30.0	60.0

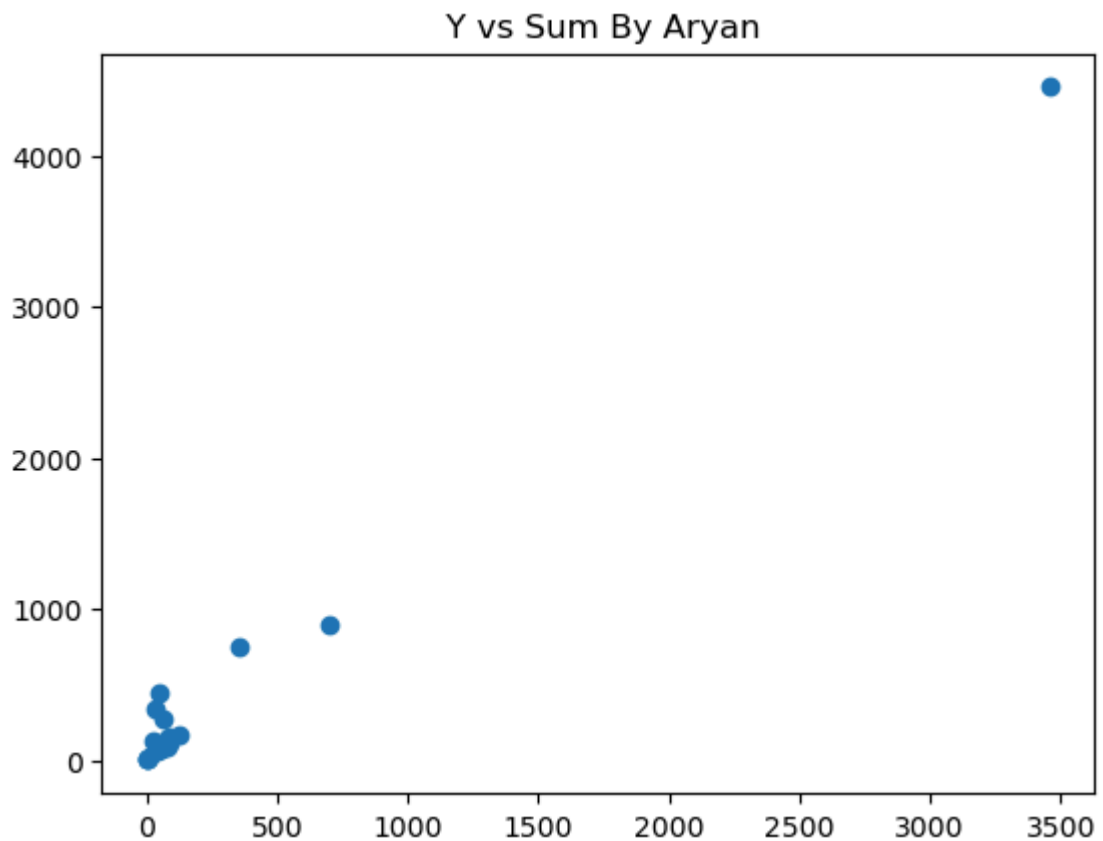
```
In [2]: import matplotlib.pyplot as plt
plt.scatter(df["x"],df["sum"])
plt.title(" X vs Sum By Aryan")
```

```
Out[2]: Text(0.5, 1.0, ' X vs Sum By Aryan')
```



```
In [3]: import matplotlib.pyplot as plt
plt.scatter(df["y"],df["sum"])
plt.title(" Y vs Sum By Aryan")
```

```
Out[3]: Text(0.5, 1.0, ' Y vs Sum By Aryan')
```



```
In [4]: from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
X_train, X_test, Y_train, Y_test = train_test_split(df[["x", "y"]], df["sum"], test_s
reg = LinearRegression()
reg.fit(X_train, Y_train)
Y_predict = reg.predict(X_test)
result = pd.DataFrame({'Actual': Y_test, 'Predicted': Y_predict})
result
```

Out[4]:

	Actual	Predicted
0	2.0	2.0
13	112.9	112.9
8	68.0	68.0
1	8.0	8.0
15	900.0	900.0

```
In [6]: import tkinter as tk
from matplotlib.figure import Figure
from matplotlib.backends.backend_tkagg import FigureCanvasTkAgg

root = tk.Tk()
root.title("Add Two Numbers using LR, BY ARYAN.")
root.geometry("800x400")

def predict_sum():
    try:
        x = float(entry_x.get())
        y = float(entry_y.get())
        input_df = pd.DataFrame({'x': [x], 'y': [y]})
        sum_prediction = reg.predict(input_df)
        label_prediction.config(text=f"Predicted Sum: {sum_prediction[0]:.2f}")
```

```
except ValueError:
    label_prediction.config(text="Please enter valid numbers.")

# ----- Main Frame -----
main_frame = tk.Frame(root, padx=20, pady=20)
main_frame.pack(expand=True)

# Title
label_entry = tk.Label(main_frame, text="Enter X and Y values:", font=("Arial", 12),
label_entry.grid(row=0, column=0, columnspan=2, pady=10)

# X Input
label_x = tk.Label(main_frame, text="X : ")
label_x.grid(row=1, column=0, sticky="e", padx=5, pady=5)

entry_x = tk.Entry(main_frame, width=15)
entry_x.grid(row=1, column=1, padx=5, pady=5)

# Y Input
label_y = tk.Label(main_frame, text="Y : ")
label_y.grid(row=2, column=0, sticky="e", padx=5, pady=5)

entry_y = tk.Entry(main_frame, width=15)
entry_y.grid(row=2, column=1, padx=5, pady=5)

# Predict Button
button_predict = tk.Button(main_frame, text="Predict Sum", command=predict_sum, width=15,
button_predict.grid(row=3, column=0, columnspan=2, pady=15)

# Prediction Label
label_prediction = tk.Label(main_frame, text="", font=("Arial", 12))
label_prediction.grid(row=4, column=0, columnspan=2, pady=10)

tk.mainloop()
```

In []: