# Student marks prediction

January 20, 2026

[1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression
```

```
Matplotlib is building the font cache; this may take a moment.
```

[2]:
```
data = {
    "Hours": [1,2,3,4,5,6,7,8,9,10],
    "Marks": [10,20,30,40,50,60,70,80,85,95]
}

df = pd.DataFrame(data)
df
```

[2]:

| | Hours | Marks |
|---|---|---|
| 0 | 1 | 10 |
| 1 | 2 | 20 |
| 2 | 3 | 30 |
| 3 | 4 | 40 |
| 4 | 5 | 50 |
| 5 | 6 | 60 |
| 6 | 7 | 70 |
| 7 | 8 | 80 |
| 8 | 9 | 85 |
| 9 | 10 | 95 |

[3]:
```
X = df[["Hours"]]   # Input (study hours)
y = df["Marks"]    # Output (marks)
```

[4]:
```
model = LinearRegression()
model.fit(X, y)

print("Model trained successfully!")
```

```
Model trained successfully!
```

[5]:
```
prediction = model.predict([[6]])
print("If student studies 6 hours, predicted marks =", prediction[0])
```

```
If student studies 6 hours, predicted marks = 58.75757575757576
```

```
/opt/conda/envs/anaconda-panel-2023.05-py310/lib/python3.11/site-
packages/sklearn/base.py:464: UserWarning: X does not have valid feature names,
but LinearRegression was fitted with feature names
  warnings.warn(
```

[6]:
```
plt.scatter(X, y, label="Actual Data")
plt.plot(X, model.predict(X), color="red", label="Regression Line")
plt.xlabel("Study Hours")
plt.ylabel("Marks")
plt.title("Student Marks Prediction")
plt.legend()
plt.show()
```