

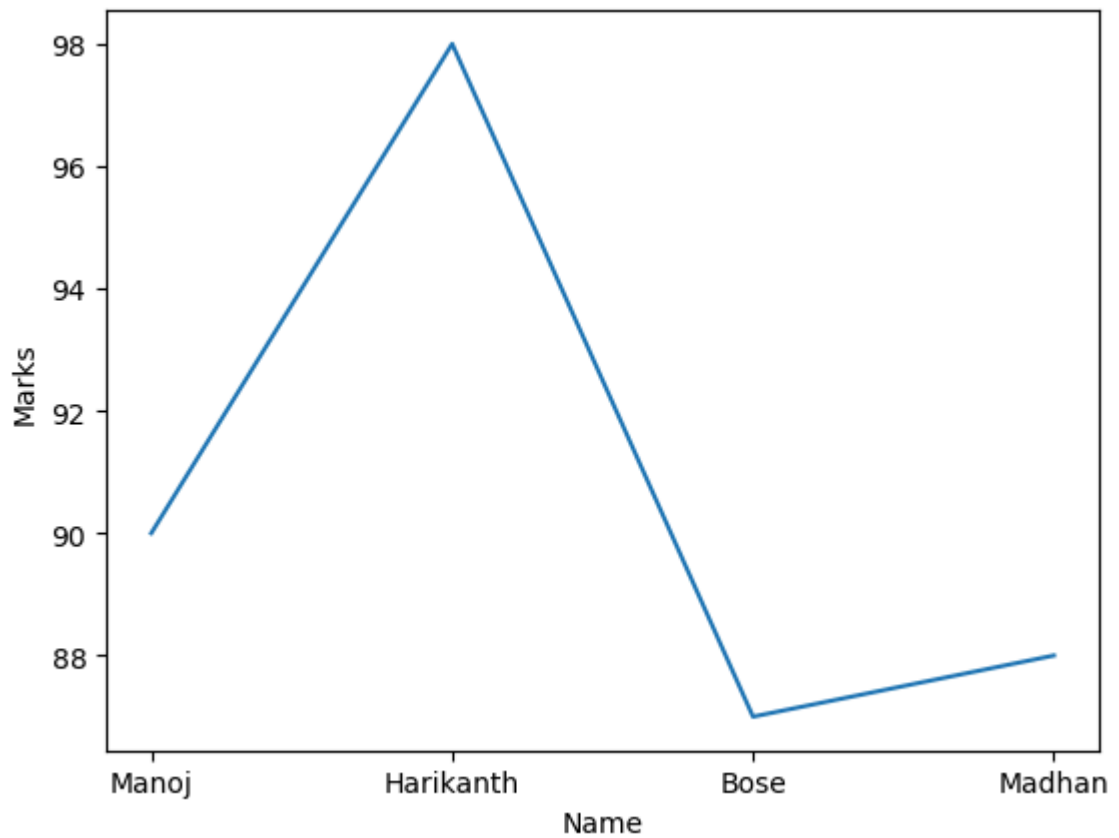
```
In [2]: import pandas as pd
structured_data=pd.DataFrame({
    'Id':[12,13,14],
    'Name':["raj","john","kumar"]
})
print(structured_data)
```

	Id	Name
0	12	raj
1	13	john
2	14	kumar

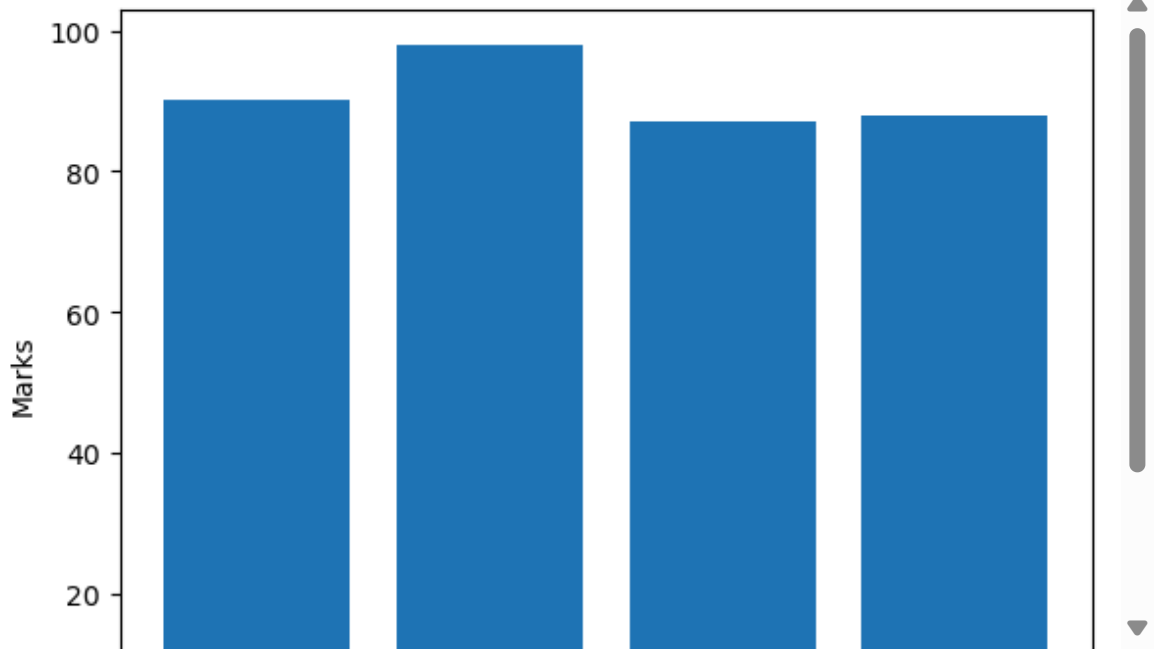
```
In [4]: import pandas as pd
structured_data=pd.DataFrame({
    'Roll.no':[352,353,354,355,356],
    'Name':["Johnny Depp","Tom Cruise","Shiva","Rajinikanth","Vimal"],
    'Dept.':["Mech","Mech","Civil","Civil","Chem"]
})
print(structured_data)
```

	Roll.no	Name	Dept.
0	352	Johnny Depp	Mech
1	353	Tom Cruise	Mech
2	354	Shiva	Civil
3	355	Rajinikanth	Civil
4	356	Vimal	Chem

```
In [2]: import pandas as pd
import matplotlib.pyplot as plt
data={"Name":["Manoj", "Harikanth", "Bose", "Madhan"],
      "Mark":[90,98,87,88]}
df=pd.DataFrame(data)
plt.plot(df["Name"],df["Mark"])
plt.xlabel("Name")
plt.ylabel("Marks")
plt.show()
```



```
In [3]: import pandas as pd
import matplotlib.pyplot as plt
data={"Name":["Manoj", "Harikanth", "Bose", "Madhan"],
      "Mark":[90,98,87,88]}
df=pd.DataFrame(data)
plt.bar(df["Name"],df["Mark"])
plt.xlabel("Name")
plt.ylabel("Marks")
plt.show()
```



```
In [2]: import pandas as pd
structured_data=pd.DataFrame({
    'Roll.no':[352,353,354,355,356],
    'Name':["learnado de caprio","jeeva","vijay","kamal","Vimal"],
    'Dept.':["Mech","Mech","Civil","Civil","Chem"]
})
print("this is an unstructured data")
print(structured_data)
```

```
this is an unstructured data
```

	Roll.no	Name	Dept.
0	352	learnado de caprio	Mech
1	353	jeeva	Mech
2	354	vijay	Civil
3	355	kamal	Civil
4	356	Vimal	Chem

```
In [2]: from cryptography.fernet import Fernet
key=Fernet.generate_key()
f=Fernet(key)
token=f.encrypt(b"I am Suriya")
token
b'...'
f.decrypt(token)
b'I am Mohamed Hasan'
key=Fernet.generate_key()
plain_text=b"I am Suriya"
cipher_suite=Fernet(key)
cipher_text=cipher_suite.encrypt(plain_text)
decrypted_text=cipher_suite.decrypt(cipher_text)
print("Original Data",plain_text)
print("Encrypted Data",cipher_text)
print("Decrypted Data",decrypted_text)
```

Original Data b'I am Suriya'

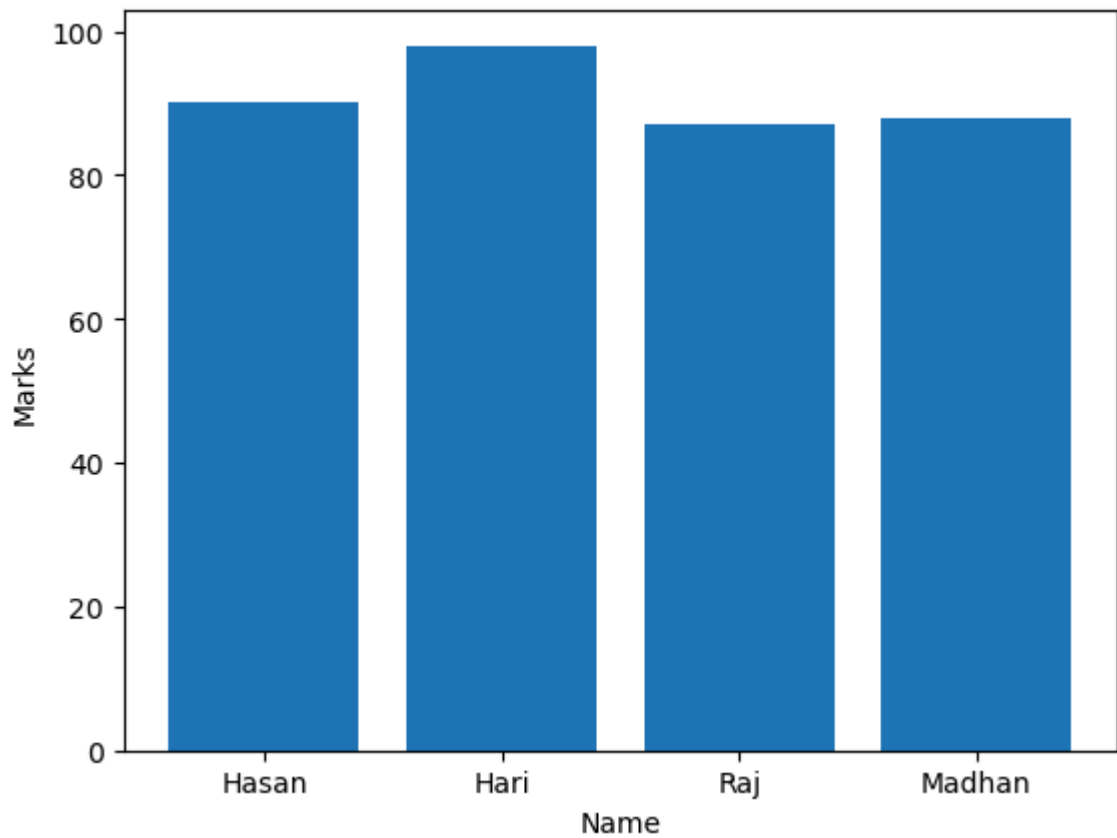
Encrypted Data b'gAAAAABmwrV0r8oDh0Z6QA040T4PmgrcRH5Lc-8bkfla\_\_L90IsY1NFVx  
vMRVNxw5kfmowfHo700rQHoSH\_SBy7QsdP5j\_N\_pA=='

Decrypted Data b'I am Suriya'

```
In [3]: import json
f=open("t.txt",'w')
a={"Roll.no":[352,353,354,355,356],
   "Name":["Johny","Tom","Shiva","Suriya","Mithun"],
   "Dept.":["Mech","CSE","Civil","Chem","EEE"]}
}
json.dump(a,f)
f.close()
f=open("t.txt",'r')
f.read()
```

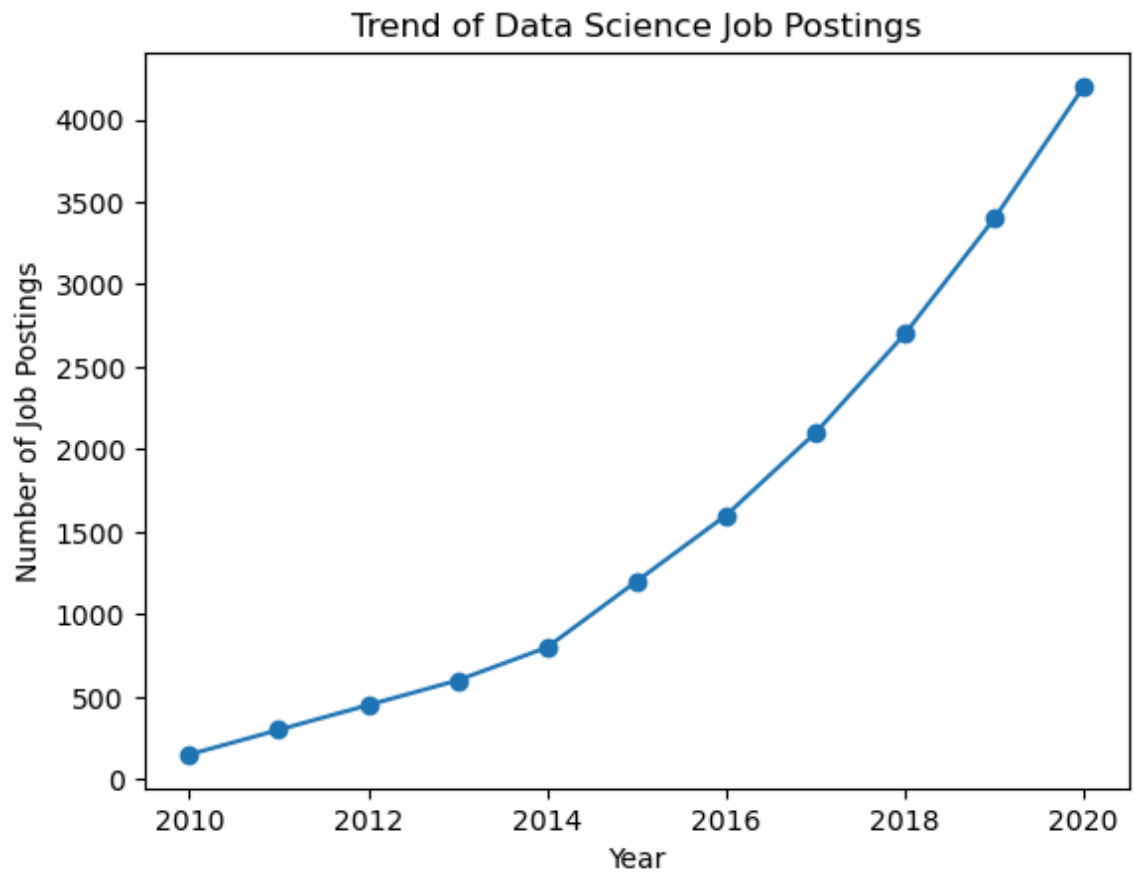
```
Out[3]: '{"Roll.no": [352, 353, 354, 355, 356], "Name": ["Johny", "Tom", "Shiva",  
"Suriya", "Mithun"], "Dept.": ["Mech", "CSE", "Civil", "Chem", "EEE"]}'
```

```
In [4]: import pandas as pd
import matplotlib.pyplot as plt
data={"Name":["Hasan", "Hari", "Raj", "Madhan"],
      "Mark":[90,98,87,88]}
df=pd.DataFrame(data)
plt.bar(df["Name"],df["Mark"])
plt.xlabel("Name")
plt.ylabel("Marks")
plt.show()
```

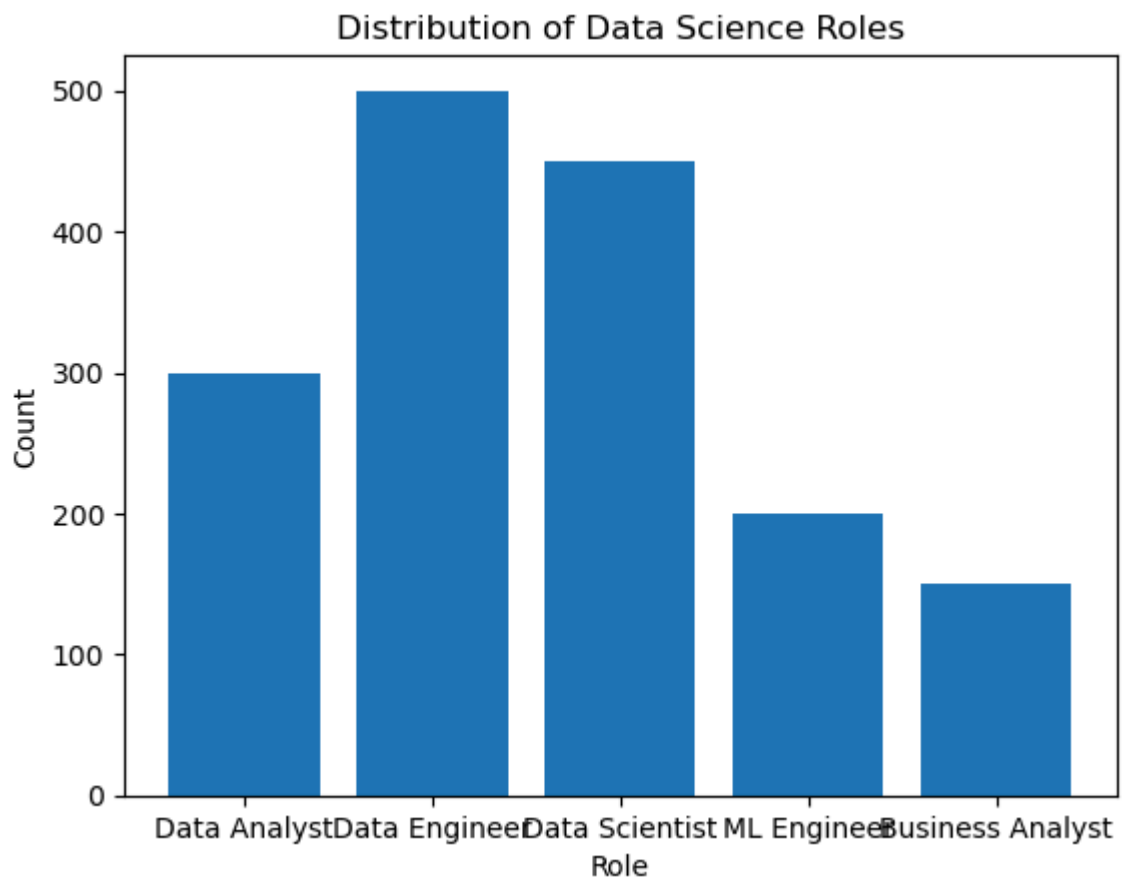


```
In [5]: import pandas as pd
import matplotlib.pyplot as plt
data = {'Year': list(range(2010, 2021)),
        'Job Postings': [150, 300, 450, 600, 800, 1200, 1600, 2100, 2700, 3400]}

df = pd.DataFrame(data)
plt.plot(df['Year'], df['Job Postings'], marker='o')
plt.title('Trend of Data Science Job Postings')
plt.xlabel('Year')
plt.ylabel('Number of Job Postings')
plt.show()
```



```
In [6]: roles = ['Data Analyst', 'Data Engineer', 'Data Scientist', 'ML Engineer', 'Business Analyst']
counts = [300, 500, 450, 200, 150]
plt.bar(roles, counts)
plt.title('Distribution of Data Science Roles')
plt.xlabel('Role')
plt.ylabel('Count')
plt.show()
```



```
In [7]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
file_path=r"C:\Users\DELL\Downloads\diabetes.csv"
df=pd.read_csv(file_path)
print(df.head())
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	\
0	6	148	72	35	0	33.6	
1	1	85	66	29	0	26.6	
2	8	183	64	0	0	23.3	
3	1	89	66	23	94	28.1	
4	0	137	40	35	168	43.1	

	DiabetesPedigreeFunction	Age	Outcome
0	0.627	50	1
1	0.351	31	0
2	0.672	32	1
3	0.167	21	0
4	2.288	33	1

In [ ]: