Financial Budget Analysis with Python

Dataset: Financial Budget of India-2021

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
data = pd.read_csv("India_budget_2021.csv")
data.head()
```
print(data)

	Department /Ministry	Fund allotted
0	MINISTRY OF AGRICULTURE	131531.19
1	DEPARTMENT OF ATOMIC ENERGY	18264.89
2	MINISTRY OF AYURVEDA, YOGA	2970.30
3	MINISTRY OF CHEMICALS AND FERTILISER	80714.94
4	MINISTRY OF CIVIL AVIATION	3224.67
5	MINISTRY OF COAL	534.88
6	MINISTRY OF COMMERCE AND INDUSTRY	12768.25
7	MINISTRY OF COMMUNICATION	75265.22
8	MINISTRY OF CONSUMER AFFAIRS	256948.40
9	MINISTRY OF CORPORATE AFFAIRS	712.13
10	MINISTRY OF CULTURE	2687.99
11	MINISTRY OF DEFENCE	478195.62
12	MINISTRY OF DEVELOPMENT OF NORTH EASTERN REGION	2658.00
13	MINISTRY OF EARTH SCIENCES	1897.13
14	MINISTRY OF EDUCATION	93224.31
15	MINISTRY OF ELECTRONICS AND INFORMATION TECHNO...	9720.66
16	MINISTRY OF ENVIRONMENT, FOREST	2869.93
17	MINISTRY OF EXTERNAL AFFAIRS	18154.73
18	MINISTRY OF FINANCE	1386273.30
19	MINISTRY OF FISHERIES, ANIMAL HUSBANDRY	4322.82
20	MINISTRY OF FOOD PROCESSING INDUSTRIES	1308.66
21	MINISTRY OF HEALTH AND FAMILY WELFARE	73931.77
22	MINISTRY OF HEAVY INDUSTRIES	1017.08
23	MINISTRY OF HOME AFFAIRS	166546.94
24	MINISTRY OF HOUSING AND URBAN AFFAIRS	54581.00
25	MINISTRY OF INFORMATION AND BROADCASTING	4071.23
26	MINISTRY OF JAL SHAKTI	69053.02
27	MINISTRY OF LABOUR AND EMPLOYMENT	13306.50
28	MINISTRY OF LAW AND JUSTICE	3229.94
29	MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES	15699.65
30	MINISTRY OF MINES	1466.82
31	MINISTRY OF MINORITY AFFAIR	4810.77
32	MINISTRY OF NEW AND RENEWABLE ENERGY	5753.00
33	MINISTRY OF PANCHAYATI RAJ	913.43
34	MINISTRY OF PARLIAMENTARY AFFAIRS	65.07
35	MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES	2097.24
36	MINISTRY OF PETROLEUM AND NATURAL GAS	15943.78
37	MINISTRY OF PLANNING	1062.77
38	MINISTRY OF PORTS, SHIPPING	1702.35
39	MINISTRY OF POWER	15322.00
40	THE PRESIDENT, PARLIAMENT, UNION PUBLIC SERVIC...	1687.57
41	MINISTRY OF RAILWAYS	110054.64
42	MINISTRY OF ROAD TRANSPORT AND HIGHWAY	118101.00
43	MINISTRY OF RURAL DEVELOPMENT	133689.50
44	MINISTRY OF SCIENCE AND TECHNOLOGY	14794.03

45	MINISTRY OF SKILL DEVELOPMENT	2785.23
46	MINISTRY OF SOCIAL JUSTICE AND EMPOWERMENT	11689.39
47	DEPARMENT OF SPACE	13949.09
48	MINISTRY OF STATISTICS	1409.13
49	MINISTRY OF STEEL	39.25
50	MINISTRY OF TEXTILES	3631.64
51	MINISTRY OF TOURISM	2026.77
52	MINISTRY OF TRIBAL AFFAIRS	7524.87
53	MINISTRY OF WOMEN AND CHILD DEVELOPMENT	24435.00
54	MINISTRY OF YOUTH AFFAIRS AND SPORTS	2596.14
55	NaN	NaN
56	GRAND TOTAL	3483235.63

- Drop NaN value from the dataset

data.dropna()

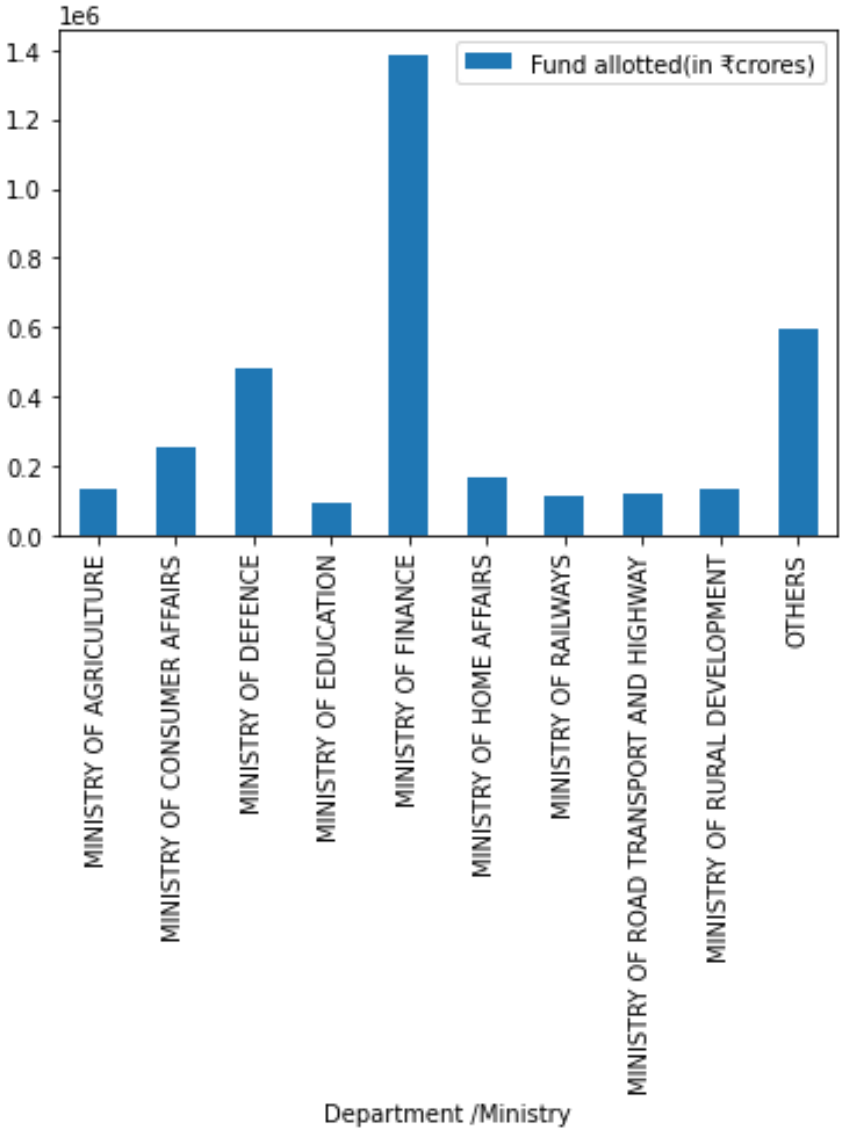
- Data preparation: Prepare data by only selecting main departments. Put other departments to others category.

```
data = data.iloc[[0,8,11,14,18,23,41,42,43],:]
row = {'Department /Ministry': 'OTHERS', 'Fund allotted(in ₹crores)':
592971.0800000001}
data = data.append(row, ignore_index = True)
print(data)
```

```
                    Department /Ministry                  Fund allotted
0                 MINISTRY OF AGRICULTURE                      131531.19
1             MINISTRY OF CONSUMER AFFAIRS                      256948.40
2                    MINISTRY OF DEFENCE                      478195.62
3                  MINISTRY OF EDUCATION                       93224.31
4                    MINISTRY OF FINANCE                     1386273.30
5                MINISTRY OF HOME AFFAIRS                      166546.94
6                    MINISTRY OF RAILWAYS                      110054.64
7  MINISTRY OF ROAD TRANSPORT AND HIGHWAY                      118101.00
8           MINISTRY OF RURAL DEVELOPMENT                      133689.50
9                                  OTHERS                      592971.08
```

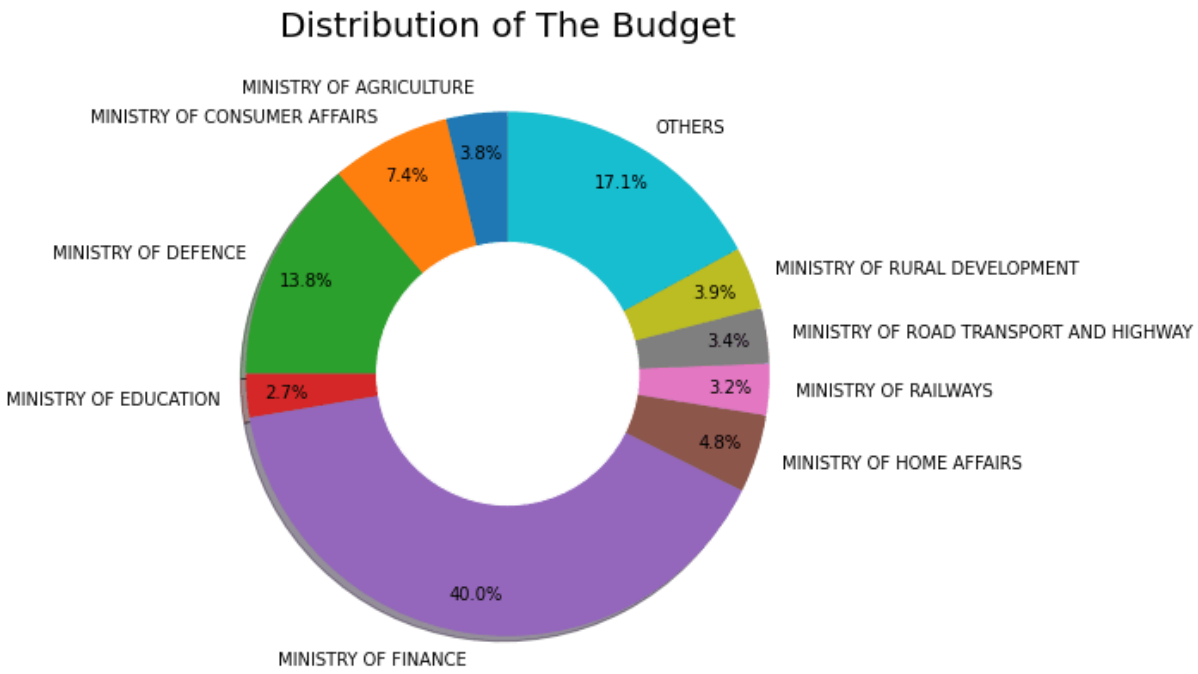
- Plot data-bar plot:

data.plot.bar(x='Department /Ministry', y='Fund allotted(in ₹crores)')



- Pie plot

```
df = data["Fund allotted(in ₹crores)"]
labels = data["Department /Ministry"]
plt.figure(figsize=(7,7))
plt.pie(df, labels=labels, autopct='%1.1f%%', startangle=90,
pctdistance=0.85, shadow =True)
central_circle = plt.Circle((0, 0), 0.5, color='white')
fig = plt.gcf()
fig.gca().add_artist(central_circle)
plt.rc('font', size=12)
plt.title("Distribution of The Budget", fontsize=20)
plt.show()
```



Ministry of finance gets 40% of the budget and it is the highest. Revenue and expenditure of government or companies can be analyzed for each financial year with Python.