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Topic:-

Select any one real-life dataset. Perform data analysis. Identify 10 grains for a given dataset. Develop an interactive dashboard using the matplotlib/Seaborn library. (Use any 10 different graphs with proper titles, legends, axis names, etc. to map identified grains)

Table:-

	State	District	Market	Commodity	Variety	Grade	Min Price	Max Price	Modal Price
1	State	District	Market	Commodity	Variety	Grade	Min Price	Max Price	Modal Price
2	Andhra Pradesh	Chittor	Chittoor	Gur(Jaggery)	NO 2	FAQ	3200	3400	3200
3	Andhra Pradesh	Chittor	Chittoor	Mango	Neelam	Medium	700	1500	1200
4	Andhra Pradesh	Chittor	Chittoor	Mango	Totapuri	Medium	1400	1800	1600
5	Andhra Pradesh	Cuddapah	Cuddapah	Groundnut	Local	FAQ	4053	7583	7553
6	Andhra Pradesh	Cuddapah	Cuddapah	Turmeric	Bulb	FAQ	4778	6160	5845
7	Andhra Pradesh	Cuddapah	Cuddapah	Turmeric	Finger	FAQ	3012	6619	6175
8	Andhra Pradesh	East Godavari	Peddapuram	Paddy(Dhan)(Common)	1001	FAQ	2040	2050	2045
9	Andhra Pradesh	East Godavari	Pithapuram	Paddy(Dhan)(Common)	1001	FAQ	2040	2060	2050
10	Andhra Pradesh	East Godavari	Prattipadu	Paddy(Dhan)(Common)	1001	FAQ	2040	2060	2050
11	Andhra Pradesh	East Godavari	Sampara	Paddy(Dhan)(Common)	Swarna Masuri (New)	FAQ	2150	2200	2180
12	Andhra Pradesh	Guntur	Duggirala	Turmeric	Bulb	FAQ	5600	6300	6000
13	Andhra Pradesh	Guntur	Duggirala	Turmeric	Finger	FAQ	5725	6300	6000
14	Andhra Pradesh	Guntur	Tenali	Black Gram (Urd Beans)(Whole)	Black Gram (Whole)	FAQ	8100	8300	8200
15	Andhra Pradesh	Guntur	Tenali	Lemon	Lemon	FAQ	1000	2500	1500
16	Andhra Pradesh	Kurnool	Alur	Jowar(Sorghum)	Jowar (White)	FAQ	3020	3080	3050
17	Andhra Pradesh	Kurnool	Kurnool	Groundnut	Local	FAQ	6083	7321	7503
18	Andhra Pradesh	Visakhapatnam	Anakapally	Gur(Jaggery)	NO 3	FAQ	3850	3950	3900
19	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Bottle gourd	Other	FAQ	1000	3000	2000
20	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Cauliflower	Other	FAQ	1000	4500	4000
21	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Cucumbar(Kheera)	Other	FAQ	1500	2500	2000
22	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Green Chilli	Other	FAQ	1500	3000	2500
23	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Lemon	Other	FAQ	2000	3000	2600
24	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Mango	Other	Medium	1000	3500	3000
25	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Mousambi(Sweet Lime)	Other	Medium	4000	5500	5000
26	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Onion	Other	FAQ	700	1700	1500
27	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Peas Wet	Other	FAQ	1000	3500	3000
28	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Plum	Other	Medium	3000	6000	5000
29	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Pomegranate	Other	Medium	5000	12000	10000
30	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Potato	Other	FAQ	500	1500	1200
31	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Pumpkin	Other	FAQ	800	1200	1000
32	Chandigarh	Chandigarh	Chandigarh(Grain/Fruit)	Tomato	Other	FAQ	2400	8800	8000
33	Chattisgarh	Balodabazar	Bhatgaon	Paddy(Dhan)(Common)	Paddy	FAQ	1550	1650	1600
34	Chattisgarh	Balodabazar	Sarsiwan	Paddy(Dhan)(Common)	Paddy	FAQ	1550	1650	1600
35	Chattisgarh	Balrampur	Ramanujganj	Maize	Local	FAQ	1970	1970	1970
36	Chattisgarh	Balrampur	Ramanujganj	Wheat	Local	FAQ	2130	2130	2130
37	Chattisgarh	Bastar	Bastar	Maize	Other	FAQ	1600	1700	1650
38	Chattisgarh	Bastar	Devda	Maize	Other	FAQ	1600	1700	1650
39	Chattisgarh	Bastar	Jagdalpur	Dry Chillies	Other	FAQ	7000	7000	7000
40	Chattisgarh	Bastar	Jaitgiri	Maize	Other	FAQ	1600	1700	1650
41	Chattisgarh	Bastar	Lohandiguda	Maize	Other	FAQ	1600	1700	1650
42	Chattisgarh	Bastar	Muli	Maize	Other	FAQ	1600	1700	1650
43	Chattisgarh	Bijapur	Bharamgarh	Mahua Seed(Hippe seed)	Other	FAQ	1600	2000	1800
44	Chattisgarh	Bijapur	Bhopalpattnam	Mahua Seed(Hippe seed)	Other	FAQ	1600	2000	1800
45	Chattisgarh	Bijapur	Bijapur	Mahua Seed(Hippe seed)	Other	FAQ	1600	2000	1800
46	Chattisgarh	Bilaspur	Pendrarood	Paddy(Dhan)(Common)	Other	FAQ	1500	1500	1500
47	Chattisgarh	Dantewada	Gidam	Mahua	Other	FAQ	1500	1700	1600

	State	District	Market	Commodity	Variety	Grade	Min Price	Max Price	Modal Price
54	Chattisgarh	Durg	Durg	Cabbage	Cabbage	FAQ	1500	1700	1600
55	Chattisgarh	Durg	Durg	Capsicum	Capsicum	FAQ	5000	5500	5250
56	Chattisgarh	Durg	Durg	Carrot	Carrot	FAQ	2800	3200	3000
57	Chattisgarh	Durg	Durg	Cauliflower	Cauliflower	FAQ	5200	5600	5400
58	Chattisgarh	Durg	Durg	Chikoos(Sapota)	Sapota	Medium	4000	6000	5000
59	Chattisgarh	Durg	Durg	Coriander(Leaves)	Coriander	FAQ	12000	14000	13000
60	Chattisgarh	Durg	Durg	Cucumbar(Kheera)	Cucumbar	FAQ	2000	2500	2250
61	Chattisgarh	Durg	Durg	Garlic	Average	FAQ	10000	14000	12000
62	Chattisgarh	Durg	Durg	Green Chilli	Green Chilly	FAQ	9000	11000	10000
63	Chattisgarh	Durg	Durg	Guar	Gwar	FAQ	5200	5600	5400
64	Chattisgarh	Durg	Durg	Lemon	Lemon	FAQ	4000	6000	5000
65	Chattisgarh	Durg	Durg	Little gourd (Kundru)	Little gourd (Kundru)	FAQ	3800	4000	3900
66	Chattisgarh	Durg	Durg	Mango	Badami	Medium	5000	7000	6000
67	Chattisgarh	Durg	Durg	Mousambi(Sweet Lime)	Mousambi	Medium	6000	8000	7000
68	Chattisgarh	Durg	Durg	Onion	Nasik	FAQ	1500	1700	1600
69	Chattisgarh	Durg	Durg	Papaya (Raw)	Papaya (Raw)	FAQ	1900	2000	1950
70	Chattisgarh	Durg	Durg	Pomegranate	Pomogranate	Medium	20000	24000	22000
71	Chattisgarh	Durg	Durg	Potato	Potato	FAQ	1600	1800	1700
72	Chattisgarh	Durg	Durg	Pumpkin	Pumpkin	FAQ	1200	1400	1300
73	Chattisgarh	Durg	Durg	Raddish	Raddish	FAQ	1500	1600	1550
74	Chattisgarh	Durg	Durg	Sweet Potato	Sweet Potato	FAQ	2400	2600	2500
75	Chattisgarh	Durg	Durg	Tinda	Tinda	FAQ	1600	1800	1700
76	Chattisgarh	Kanker	Charama	Paddy(Dhan)(Common)	Other	FAQ	1980	1980	1980
77	Chattisgarh	Kanker	Lakhanpuri	Paddy(Dhan)(Common)	Other	FAQ	1980	1980	1980
78	Chattisgarh	Kanker	Narharpur	Paddy(Dhan)(Common)	Other	FAQ	1980	1980	1980
79	Chattisgarh	Koria	Baikunthpur	Kodo Millet(Varagu)	Other	FAQ	1500	1500	1500
80	Chattisgarh	Koria	Baikunthpur	Maize	Other	FAQ	1965	1965	1965
81	Chattisgarh	Koria	Baikunthpur	Paddy(Dhan)(Common)	Other	FAQ	2045	2045	2045
82	Chattisgarh	Koria	Manendragarh	Tobacco	Other	FAQ	5342	5342	5342
83	Chattisgarh	Mungeli	Lormi	Paddy(Dhan)(Common)	Paddy fine	FAQ	1600	1750	1750
84	Chattisgarh	Narayanpur	Narayanpur	Millets	Other	FAQ	3000	3800	3500
85	Chattisgarh	Raigarh	Raigarh	Onion	Other	FAQ	1800	2000	1800
86	Chattisgarh	Raigarh	Raigarh	Potato	Other	FAQ	1200	1800	1500
87	Chattisgarh	Raigarh	Raigarh	Tomato	Other	FAQ	8000	9000	8000
88	Chattisgarh	Raipur	Abhanpur	Paddy(Dhan)(Common)	I.R.-64	FAQ	1850	1850	1850
89	Goa	North Goa	Valpoi	Arecanut(Betelnut/Supari)	Red	FAQ	33500	33500	33500
90	Goa	North Goa	Valpoi	Arecanut(Betelnut/Supari)	Supari	FAQ	36500	36500	36500
91	Goa	North Goa	Valpoi	Arecanut(Betelnut/Supari)	White	FAQ	34500	34500	34500
92	Gujarat	Amreli	Babra	Cotton	Other	FAQ	7050	7100	7075
93	Gujarat	Amreli	Babra	Groundnut	Other	FAQ	6500	6700	6600
94	Gujarat	Amreli	Bagasara	Bengal Gram(Gram)(Whole)	Average (Whole)	FAQ	4460	4535	4495
95	Gujarat	Amreli	Bagasara	Cotton	Other	FAQ	6250	6825	6535
96	Gujarat	Amreli	Bagasara	Soyabean	Yellow	FAQ	4560	4700	4630
97	Gujarat	Amreli	Bagasara	Wheat	Lokwan Gujrat	FAQ	2250	2285	2265
98	Gujarat	Amreli	Dhari	Cotton	Other	FAQ	7140	7140	7140
99	Gujarat	Amreli	Dhari	Ground Nut Seed	Ground Nut Seed	FAQ	8250	8250	8250
100	Gujarat	Amreli	Savarkundla	Bajra(Pearl Millet/Cumbu)	Deshi	FAQ	1900	2120	2010

```python
import seaborn as sns import
matplotlib.pyplot as plt import
pandas as pd

# Load the CSV file into a DataFrame df =
pd.read_csv("/content/daily price.csv")

# Statement 1: Distribution of Modal Prices
sns.histplot(data=df, x='Modal Price')
plt.xlabel('Modal Price') plt.ylabel('Count')
plt.title('Distribution of Modal Prices') plt.show()

# Statement 2: Count of Each Commodity
sns.countplot(data=df, x='Commodity')
plt.xlabel('Commodity') plt.ylabel('Count')
plt.title('Count of Commodities')
plt.xticks(rotation=45) plt.show()

# Statement 3: Average Min and Max Prices by State
```

```python
sns.barplot(data=df, x='State', y='Min Price')
plt.xlabel('State') plt.ylabel('Average Min
Price') plt.title('Average Minimum Price by
State') plt.xticks(rotation=45) plt.show()
 sns.barplot(data=df, x='State', y='Max
Price') plt.xlabel('State')
plt.ylabel('Average Max Price')
plt.title('Average Maximum Price by State')
plt.xticks(rotation=45) plt.show()

# Statement 4: Relationship between Min Price and Max Price
sns.scatterplot(data=df, x='Min Price', y='Max Price')
plt.xlabel('Min Price') plt.ylabel('Max Price')
plt.title('Min Price vs Max Price') plt.show()

# Statement 5: Average Modal Price by Market
sns.barplot(data=df, x='Market', y='Modal Price')
plt.xlabel('Market') plt.ylabel('Average Modal
Price') plt.title('Average Modal Price by
Market') plt.xticks(rotation=45) plt.show()

# Statement 6: Modal Price Comparison across Grades
sns.boxplot(data=df, x='Grade', y='Modal Price')
plt.xlabel('Grade') plt.ylabel('Modal Price')
plt.title('Modal Price by Grade')
plt.xticks(rotation=45) plt.show()

# Statement 7: Modal Price Distribution for Each Variety
sns.violinplot(data=df, x='Variety', y='Modal Price')
plt.xlabel('Variety') plt.ylabel('Modal Price')
plt.title('Modal Price Distribution by Variety')
plt.xticks(rotation=45) plt.show()
```

```python
# Statement 8: Modal Price Trend by District
sns.lineplot(data=df, x='District', y='Modal Price')
plt.xlabel('District') plt.ylabel('Modal Price')
plt.title('Modal Price Trend by District')
plt.xticks(rotation=45) plt.show()

# Statement 9: Average Modal Price by Commodity
sns.barplot(data=df, x='Commodity', y='Modal Price')
plt.xlabel('Commodity') plt.ylabel('Average Modal
Price') plt.title('Average Modal Price by
Commodity') plt.xticks(rotation=45) plt.show()

# Statement 10: Count of Each District
sns.countplot(data=df, x='District')
plt.xlabel('District')
plt.ylabel('Count') plt.title('Count
of Districts') plt.xticks(rotation=45)
plt.show()

# Statement 11: Modal Price Distribution by State and Market
sns.boxplot(data=df, x='State', y='Modal Price', hue='Market')
plt.xlabel('State') plt.ylabel('Modal Price') plt.title('Modal
Price Distribution by State and Market')
plt.xticks(rotation=45) plt.legend(title='Market') plt.show()

# Statement 12: Modal Prices for Each Variety by Market
sns.barplot(data=df, x='Variety', y='Modal Price', hue='Market')
plt.xlabel('Variety')  plt.ylabel('Modal  Price')
plt.title('Modal Price by Variety and Market')
plt.xticks(rotation=45)
plt.legend(title='Market') plt.show()

# Statement 13: Average Modal Price by Commodity and Grade
sns.barplot(data=df, x='Commodity', y='Modal Price', hue='Grade')
plt.xlabel('Commodity')
```

```
plt.ylabel('Average Modal Price') plt.title('Average
Modal Price by Commodity and Grade')
plt.xticks(rotation=45) plt.legend(title='Grade')
plt.show()

# Statement 14: Modal Price Distribution by State and Commodity
sns.violinplot(data=df, x='State', y='Modal Price', hue='Commodity')
plt.xlabel('State') plt.ylabel('Modal Price') plt.title('Modal Price
Distribution by State and Commodity') plt.xticks(rotation=45)
plt.legend(title='Commodity') plt.show()

# Statement 15: Relationship between Modal Price and Market by District
sns.scatterplot(data=df, x='Modal Price', y='Market', hue='District')
plt.xlabel('Modal Price') plt.ylabel('Market') plt.title('Modal Price
vs Market by District') plt.legend(title='District') plt.show()
```
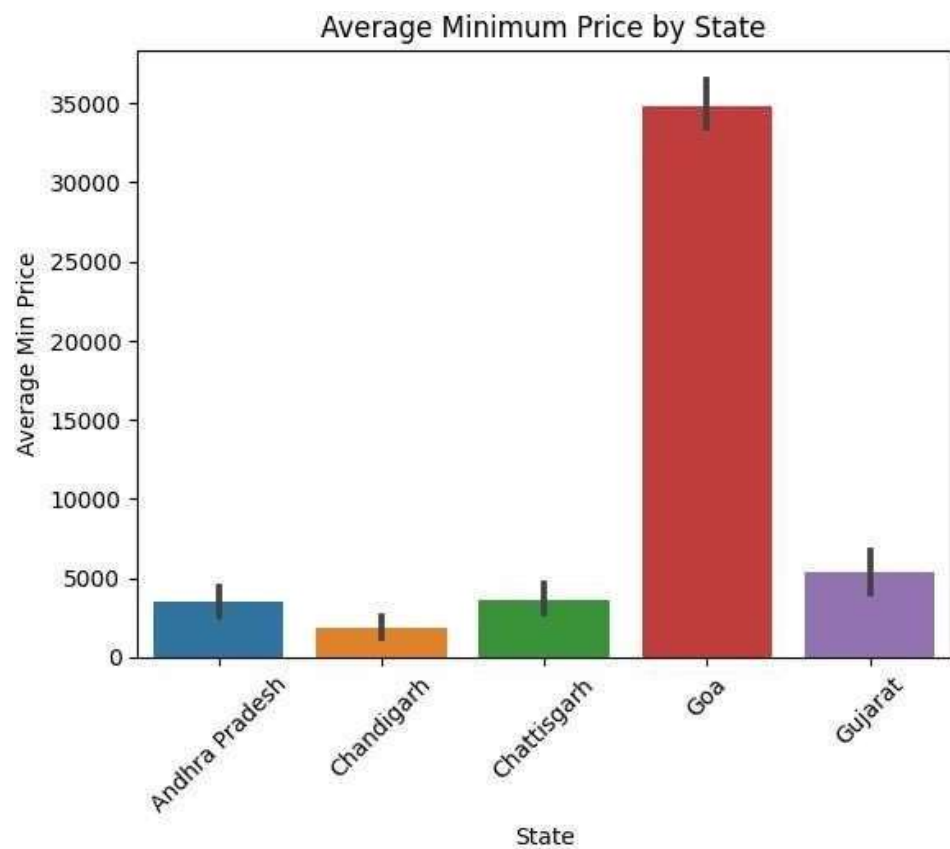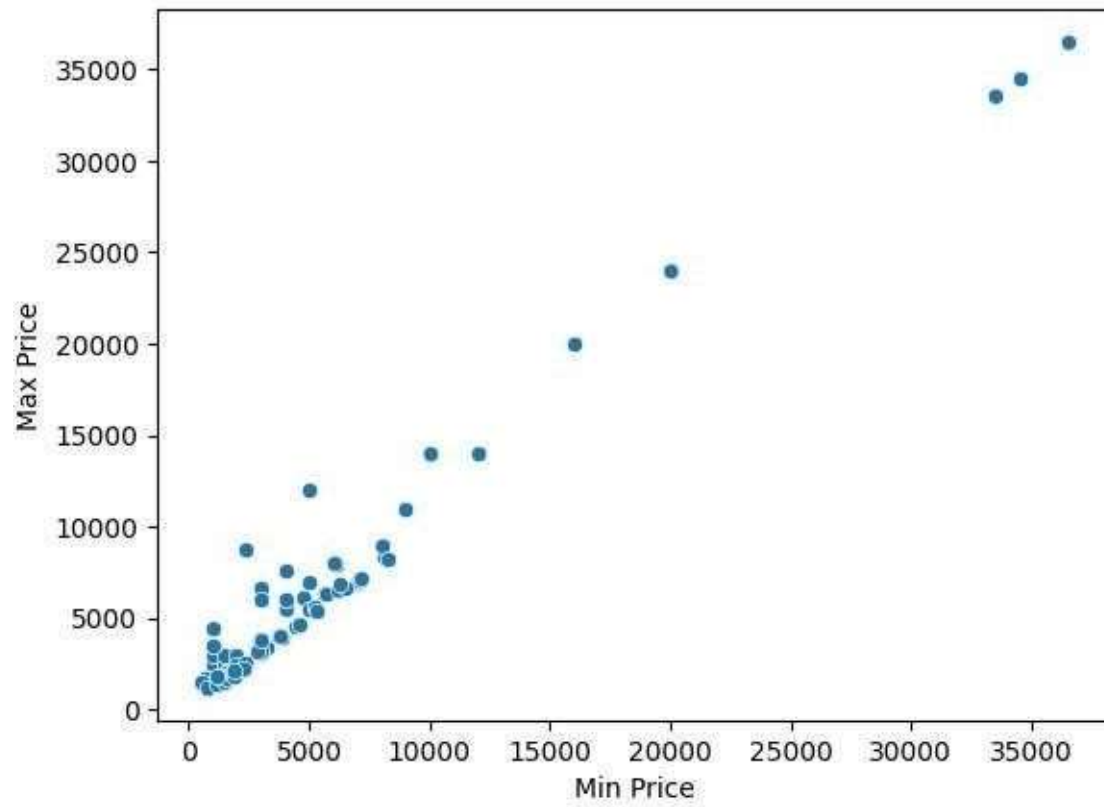
output :-

Count of Commodities
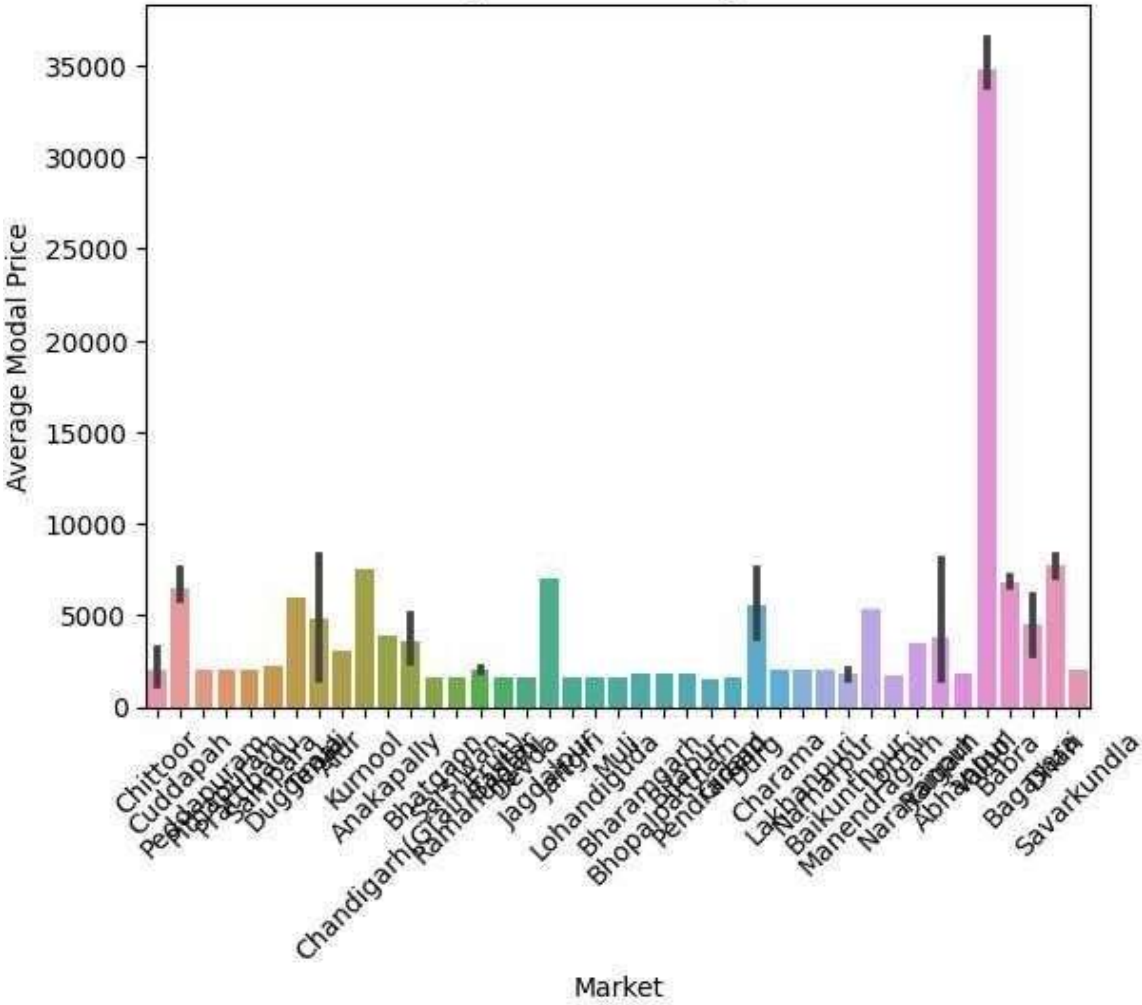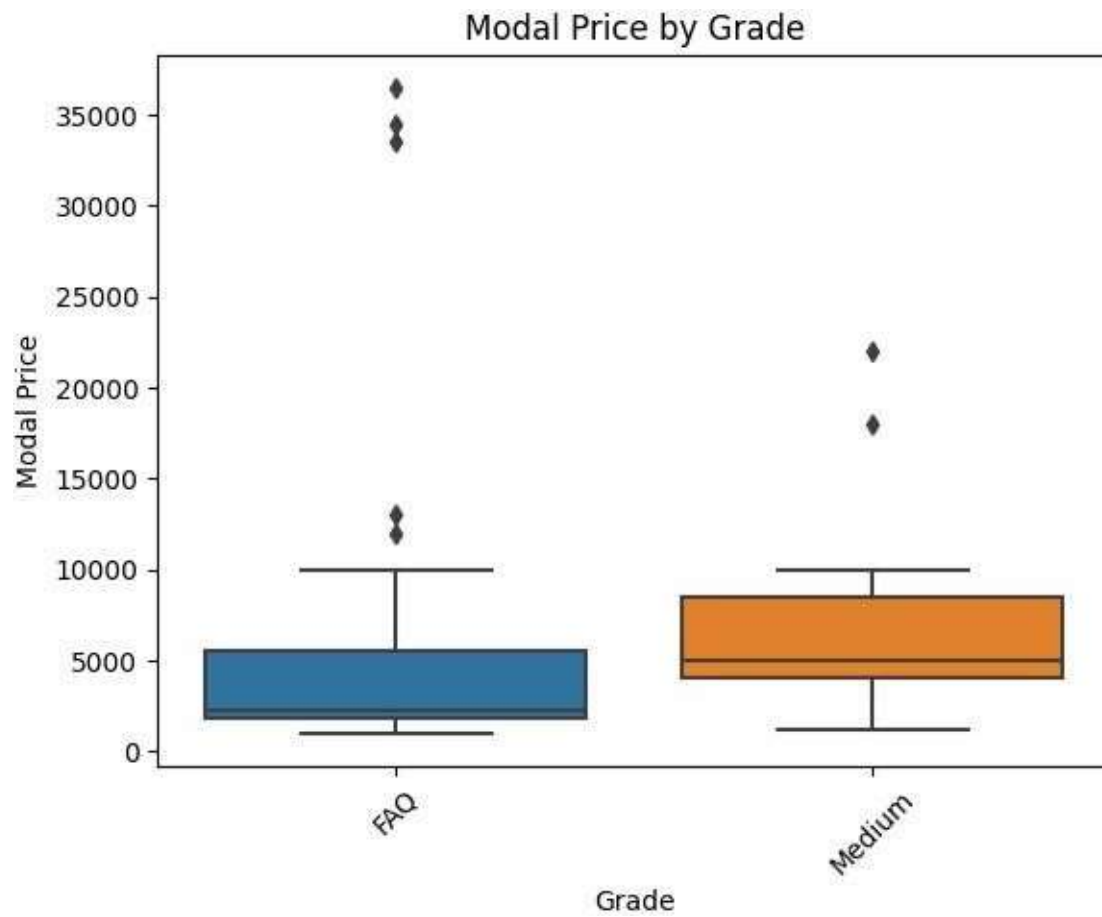
Average Minimum Price by State

Average Maximum Price by State
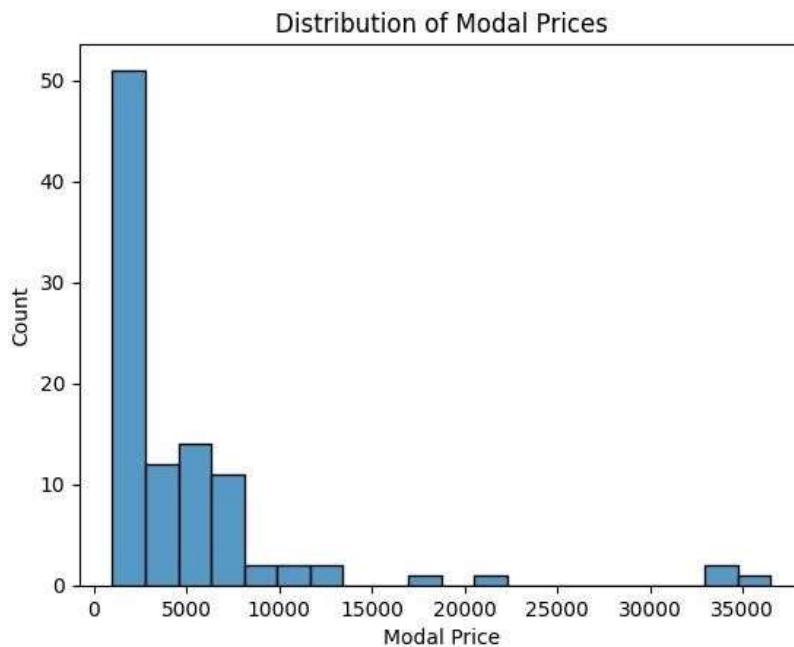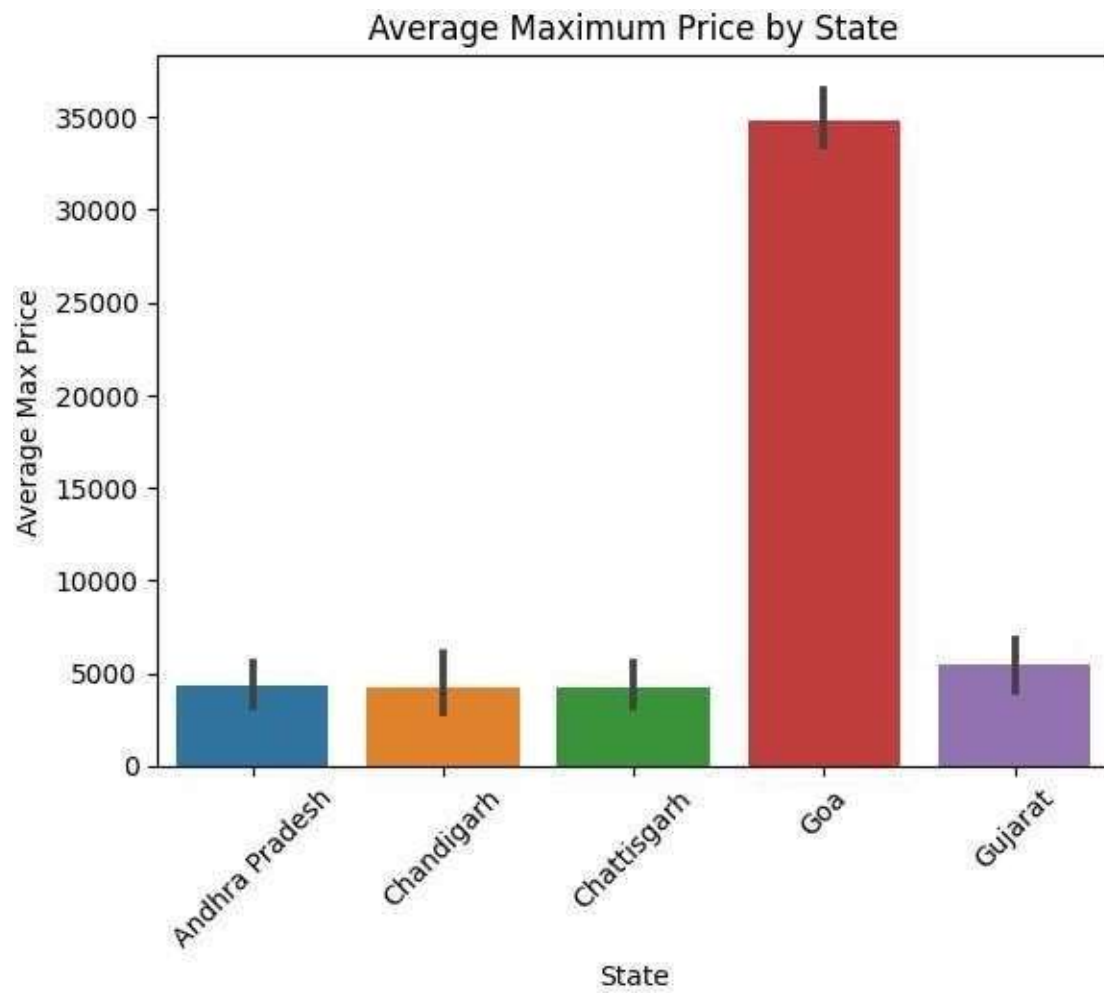
Min Price vs Max Price

Average Modal Price by Market
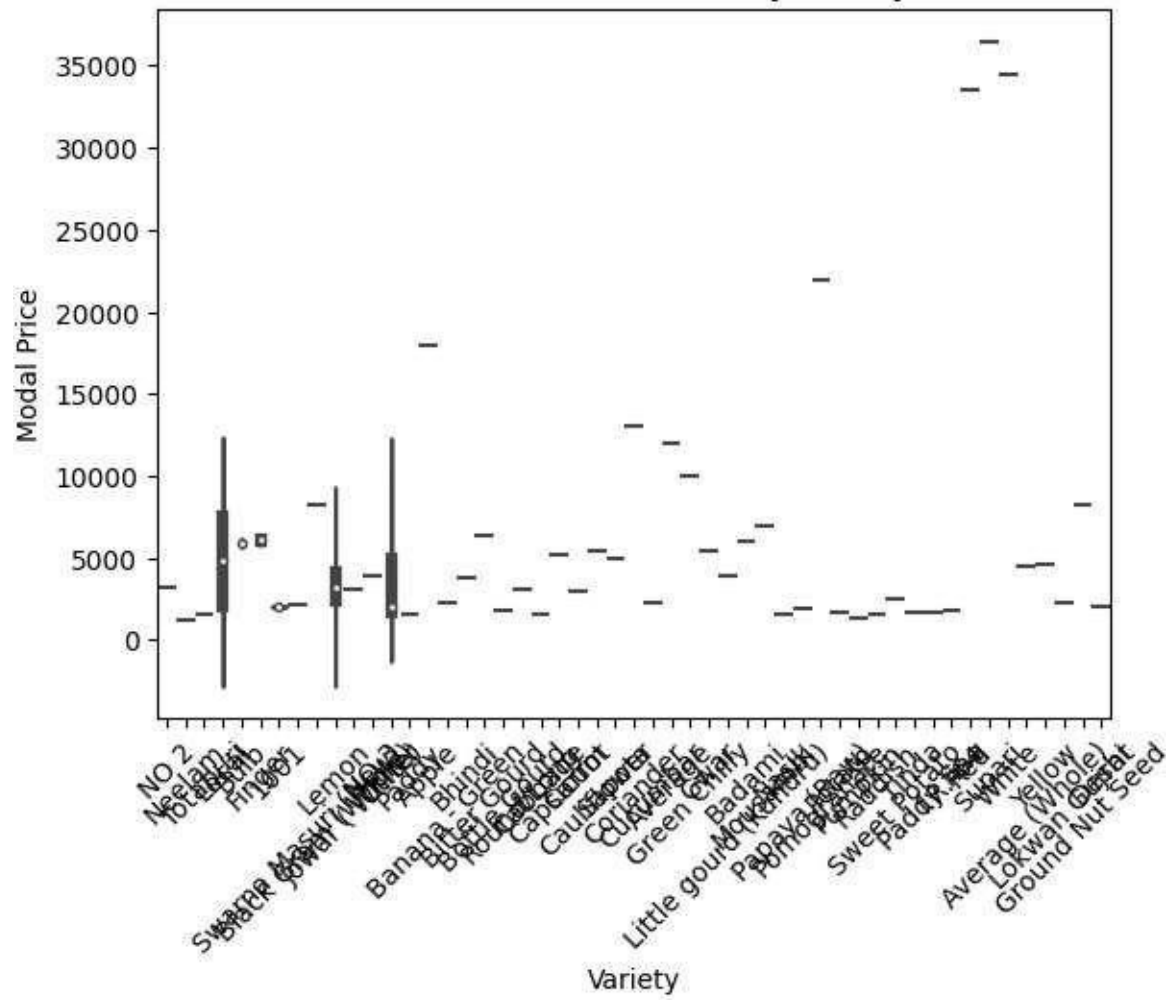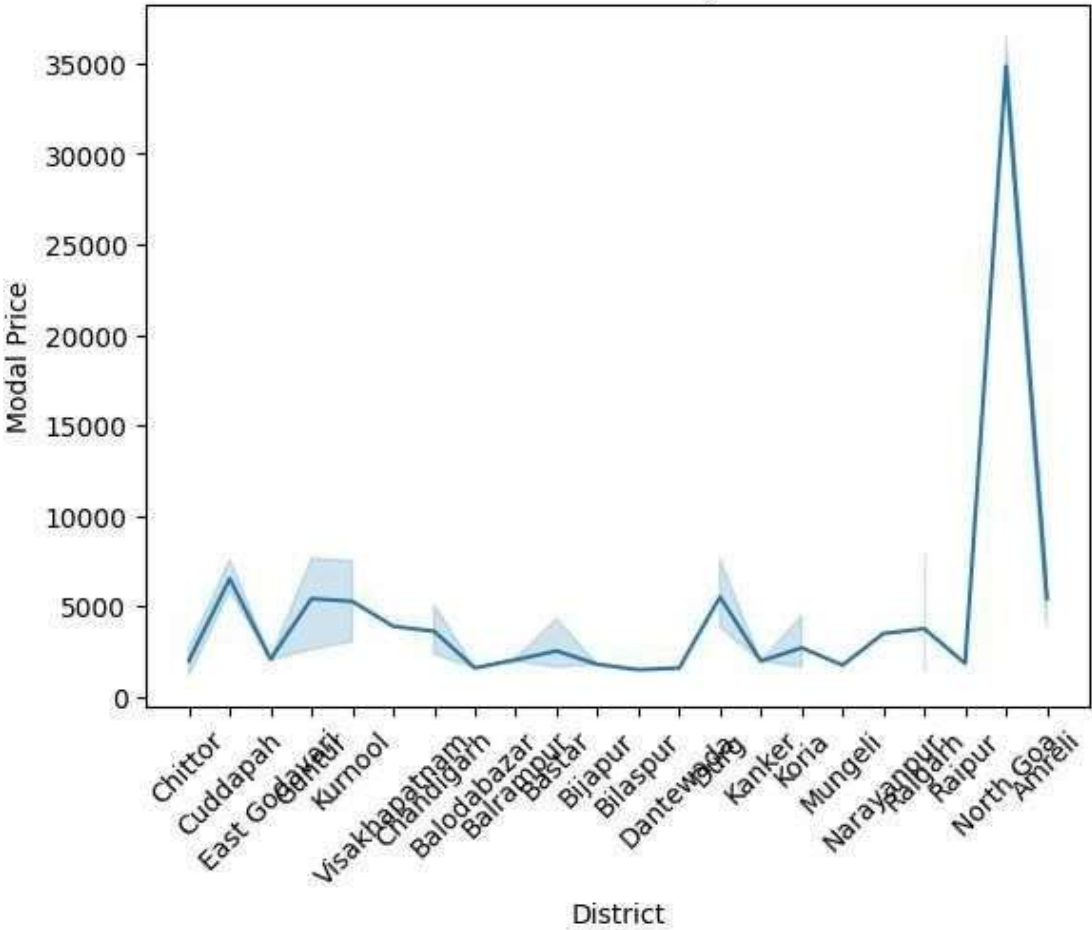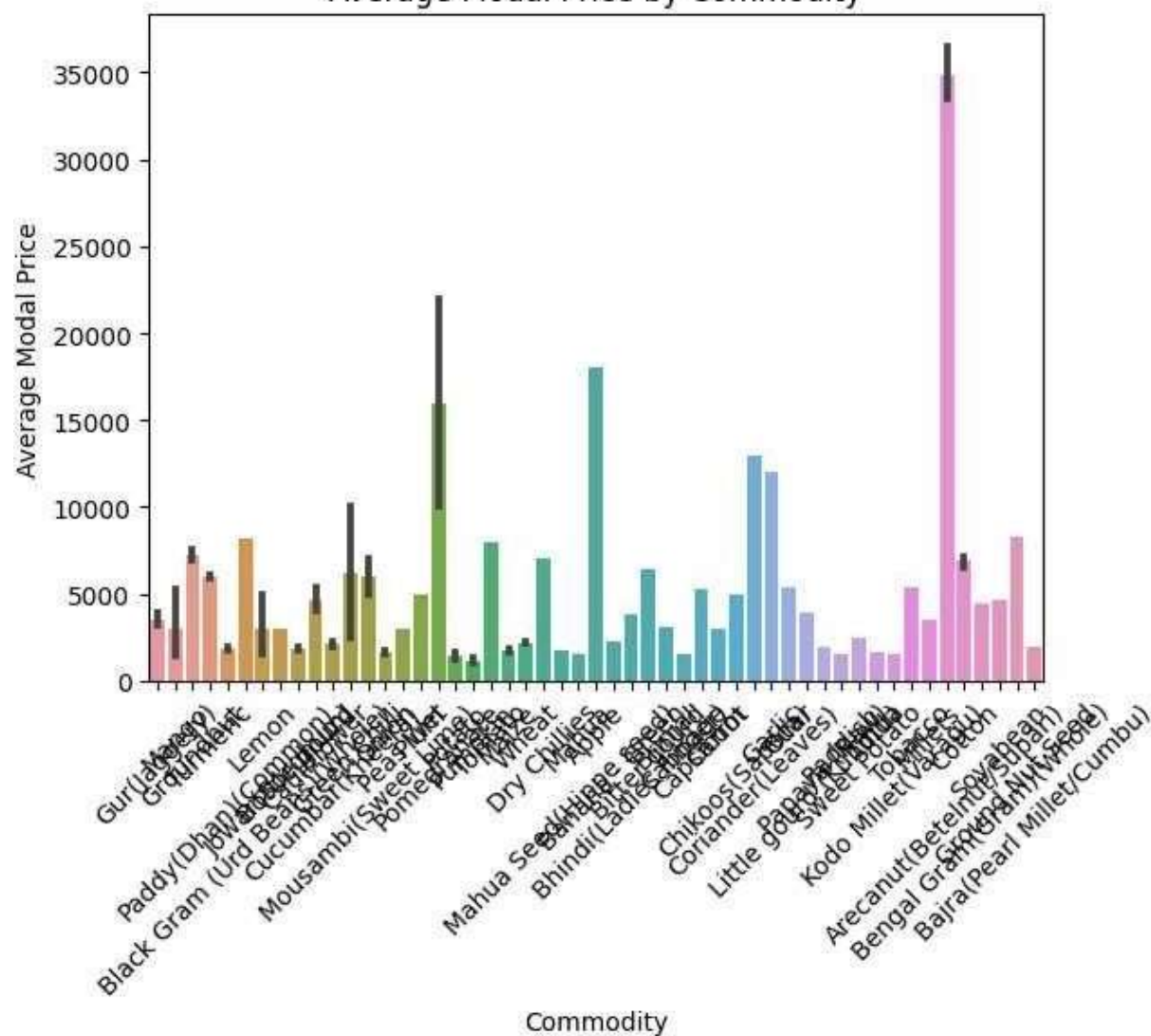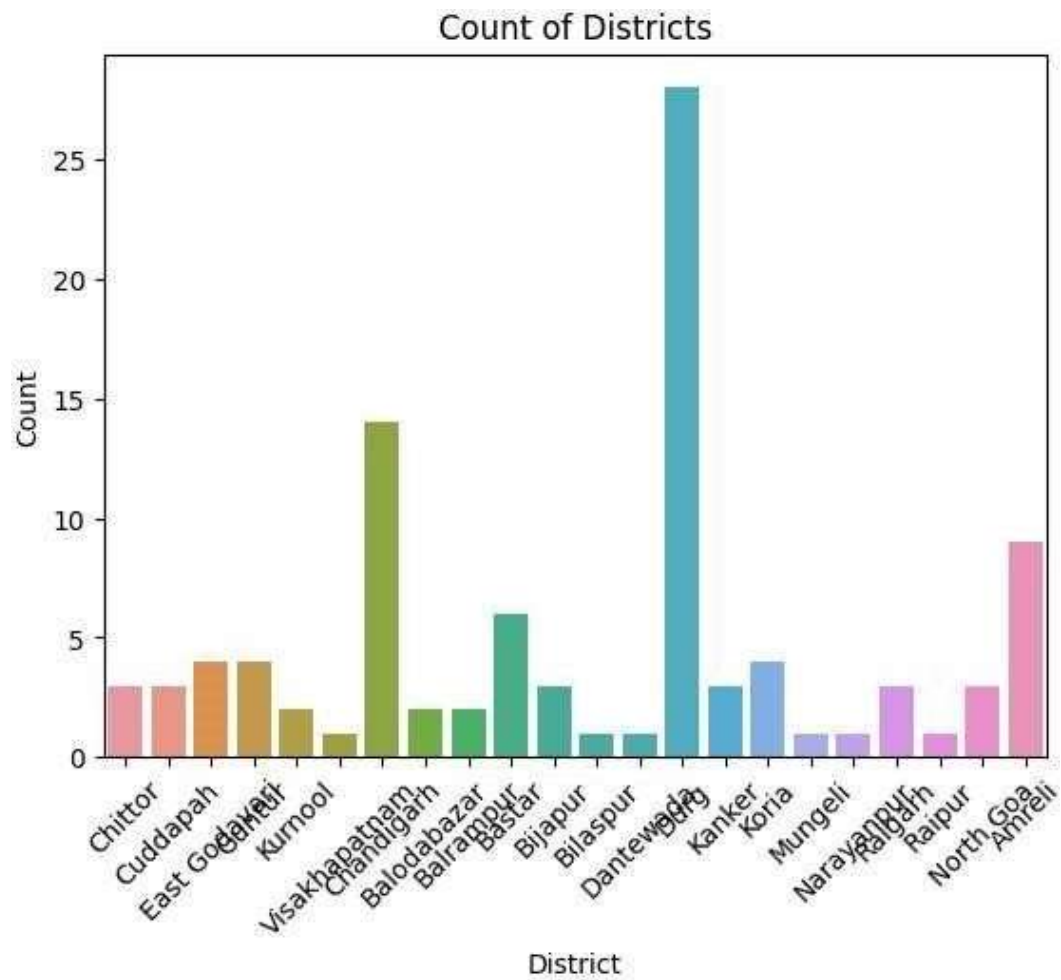
Modal Price by Grade

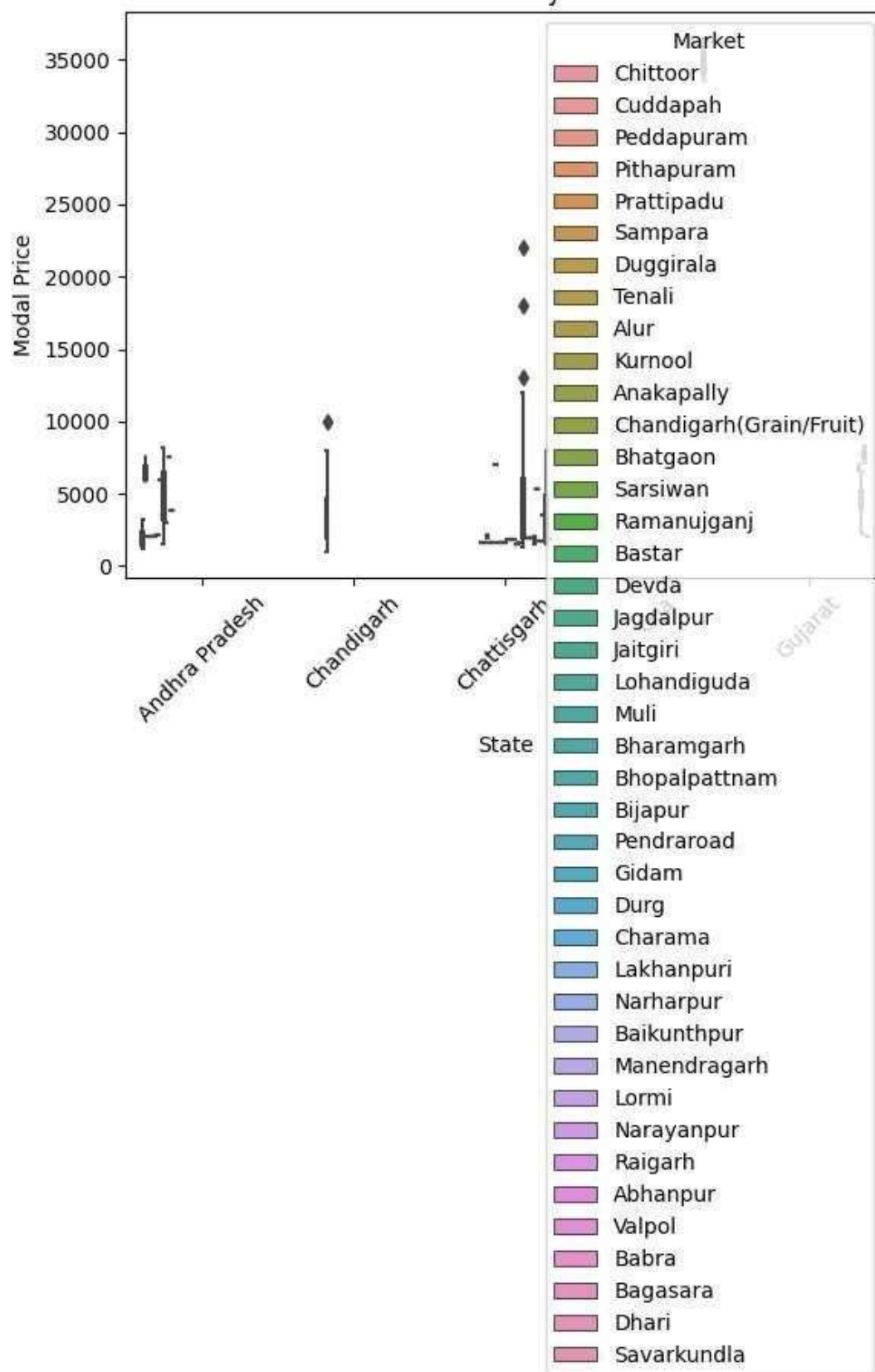Modal Price Distribution by Variety

Modal Price Trend by District

Average Modal Price by Commodity

Count of Districts

Modal Price Distribution by State and Market

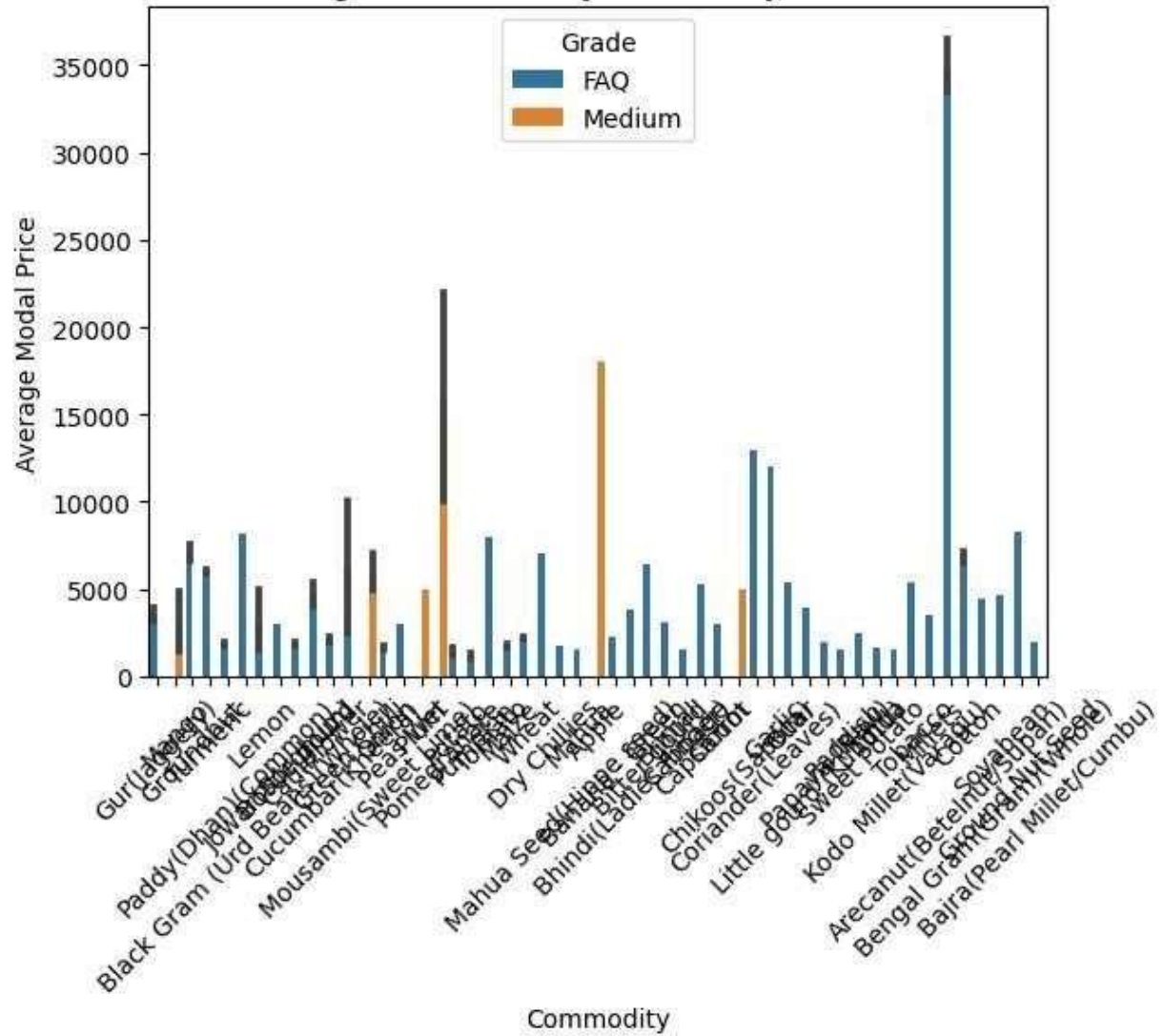| Market |
| --- |
| Chittoor |
| Cuddapah |
| Peddapuram |
| Pithapuram |
| Prattipadu |
| Sampara |
| Duggirala |
| Tenali |
| Alur |
| Kurnool |
| Anakapally |
| Chandigarh(Grain/Fruit) |
| Bhatgaon |
| Sarsiwan |
| Ramanujganj |
| Bastar |
| Devda |
| Jagdalpur |
| Jaitgiri |
| Lohandiguda |
| Muli |
| Bharamgarh |
| Bhopalpattnam |
| Bijapur |
| Pendraroad |
| Gidam |
| Durg |
| Charama |
| Lakhanpuri |
| Narharpur |
| Baikunthpur |
| Manendragarh |
| Lormi |
| Narayanpur |
| Raigarh |
| Abhanpur |
| Valpol |
| Babra |
| Bagasara |
| Dhari |
| Savarkundla |

Modal Price by Variety and Market
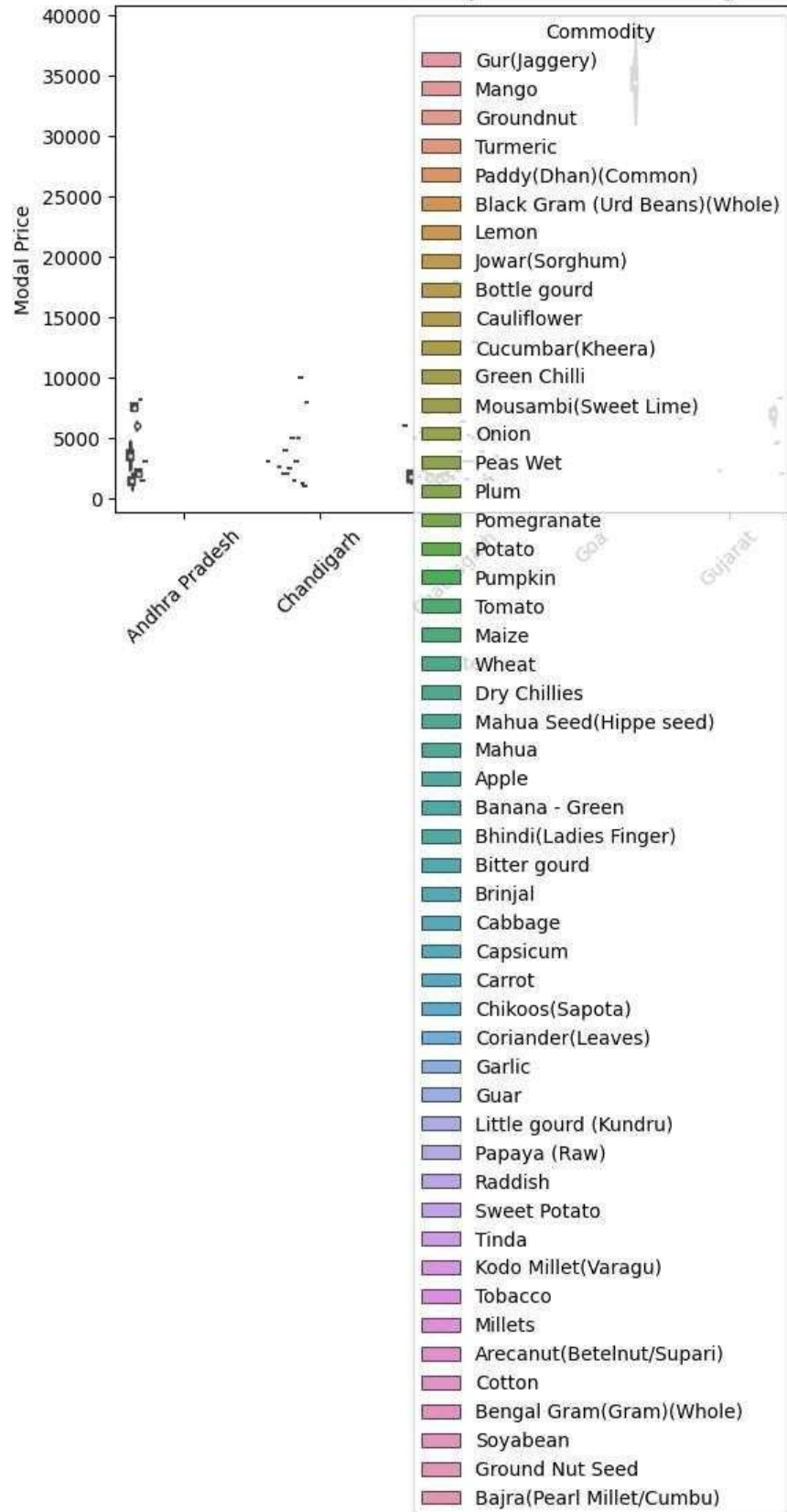
Average Modal Price by Commodity and Grade

Modal Price Distribution by State and Commodity

Commodity

- Gur(Jaggery)
- Mango
- Groundnut
- Turmeric
- Paddy(Dhan)(Common)
- Black Gram (Urd Beans)(Whole)
- Lemon
- Jowar(Sorghum)
- Bottle gourd
- Cauliflower
- Cucumbar(Kheera)
- Green Chilli
- Mousambi(Sweet Lime)
- Onion
- Peas Wet
- Plum
- Pomegranate
- Potato
- Pumpkin
- Tomato
- Maize
- Wheat
- Dry Chillies
- Mahua Seed(Hippe seed)
- Mahua
- Apple
- Banana - Green
- Bhindi(Ladies Finger)
- Bitter gourd
- Brinjal
- Cabbage
- Capsicum
- Carrot
- Chikoos(Sapota)
- Coriander(Leaves)
- Garlic
- Guar
- Little gourd (Kundru)
- Papaya (Raw)
- Raddish
- Sweet Potato
- Tinda
- Kodo Millet(Varagu)
- Tobacco
- Millets
- Arecanut(Betelnut/Supari)
- Cotton
- Bengal Gram(Gram)(Whole)
- Soyabean
- Ground Nut Seed
- Bajra(Pearl Millet/Cumbu)

Modal Price vs Market by District