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Roll no :- 311

PRN :- 202201040038

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:-

| 1 | State | District | Market | Commodity | Variety | Grade | Min Price | Max Price | Modal Price |
|----|----------------|---------------|-------------------------|-------------------------------|---------------------|----------|-----------|-----------|-------------|
| 2 | Andhra Pradesh | Chittoor | Chittoor | Gur(Jaggery) | NO 2 | FAQ | 3200 | 3400 | 3200 |
| 3 | Andhra Pradesh | Chittoor | Chittoor | Mango | Neelam | Medium | 100 | 1500 | 1200 |
| 4 | Andhra Pradesh | Chittoor | 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 | 5843 |
| 7 | Andhra Pradesh | Cuddapah | Cuddapah | Turmeric | Finger | FAQ | 3012 | 6613 | 6173 |
| 8 | Andhra Pradesh | East Godavari | Peddapuram | Paddy(Dhan)(Common) | | 1001 FAQ | 2040 | 2050 | 2043 |
| 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 | Vizakhapatnam | Anakapally | Gur(Jaggery) | NO 3 | FAQ | 3850 | 3350 | 3300 |
| 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) | Cucumber(Kheers) | 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) | Mouzambi(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 | Ramsnuganj | Maize | Local | FAQ | 1370 | 1370 | 1370 |
| 36 | Chattisgarh | Balrampur | Ramsnuganj | 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 | Jagdulpur | 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 | Mshus Seed(Hippe seed) | Other | FAQ | 1600 | 2000 | 1800 |
| 44 | Chattisgarh | Bijapur | Bhopalpattnam | Mshus Seed(Hippe seed) | Other | FAQ | 1600 | 2000 | 1800 |
| 45 | Chattisgarh | Bijapur | Bijapur | Mshus Seed(Hippe seed) | Other | FAQ | 1600 | 2000 | 1800 |
| 46 | Chattisgarh | Bilaspur | Pendraroad | Paddy(Dhan)(Common) | Other | FAQ | 1500 | 1500 | 1500 |
| 47 | Chattisgarh | Dantewada | Gidam | Mshus | Other | FAQ | 1500 | 1700 | 1600 |

| | | | | | | | | | | |
|-----|-------------|-------------|--------------|---------------------------|-----------------------|--------|-------|-------|-------|--|
| 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 | Chikoo(Sapota) | Sapota | Medium | 4000 | 6000 | 5000 | |
| 59 | Chattisgarh | Durg | Durg | Coriander(Leaves) | Coriander | FAQ | 12000 | 14000 | 13000 | |
| 60 | Chattisgarh | Durg | Durg | Cucumber(Kheera) | Cucumber | FAQ | 2000 | 2500 | 2250 | |
| 61 | Chattisgarh | Durg | Durg | Garlic | Average | FAQ | 10000 | 14000 | 12000 | |
| 62 | Chattisgarh | Durg | Durg | Green Chilli | Green Chilly | FAQ | 3000 | 11000 | 10000 | |
| 63 | Chattisgarh | Durg | Durg | Gwar | 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 | Nazik | FAQ | 1500 | 1700 | 1600 | |
| 69 | Chattisgarh | Durg | Durg | Papaya (Raw) | Papaya (Raw) | FAQ | 1900 | 2000 | 1950 | |
| 70 | Chattisgarh | Durg | Durg | Pomegranate | Pomegranate | 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 | 1380 | 1380 | 1380 | |
| 77 | Chattisgarh | Kanker | Lakhanpuri | Paddy(Dhan)(Common) | Other | FAQ | 1380 | 1380 | 1380 | |
| 78 | Chattisgarh | Kanker | Narharpur | Paddy(Dhan)(Common) | Other | FAQ | 1380 | 1380 | 1380 | |
| 79 | Chattisgarh | Koria | Baikunthpur | Kodo Millet(Varagu) | Other | FAQ | 1500 | 1500 | 1500 | |
| 80 | Chattisgarh | Koria | Baikunthpur | Maize | Other | FAQ | 1365 | 1365 | 1365 | |
| 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 | Narsayanpur | Narsayanpur | Millets | Other | FAQ | 3000 | 3800 | 3500 | |
| 85 | Chattisgarh | Raigarh | Raigarh | Onion | Other | FAQ | 1800 | 2000 | 1900 | |
| 86 | Chattisgarh | Raigarh | Raigarh | Potato | Other | FAQ | 1200 | 1800 | 1500 | |
| 87 | Chattisgarh | Raigarh | Raigarh | Tomato | Other | FAQ | 8000 | 3000 | 8000 | |
| 88 | Chattisgarh | Raipur | Abhanpur | Paddy(Dhan)(Common) | LR-64 | FAQ | 1850 | 1850 | 1850 | |
| 89 | Goa | North Goa | Valpol | Arecanut(Betelnut/Supari) | Red | FAQ | 33500 | 33500 | 33500 | |
| 90 | Goa | North Goa | Valpol | Arecanut(Betelnut/Supari) | Supari | FAQ | 36500 | 36500 | 36500 | |
| 91 | Goa | North Goa | Valpol | 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 | Bhagavara | Bengal Gram(Gram)(Whole) | Average (Whole) | FAQ | 4460 | 4535 | 4495 | |
| 95 | Gujarat | Amreli | Bhagavara | Cotton | Other | FAQ | 6250 | 6825 | 6535 | |
| 96 | Gujarat | Amreli | Bhagavara | Soysabean | Yellow | FAQ | 4560 | 4700 | 4630 | |
| 97 | Gujarat | Amreli | Bhagavara | 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 | Pearl Millet(Cumbu) | Ne-shi | FAQ | 1900 | 2120 | 2010 | |

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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

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```
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()
```

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# 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')
```

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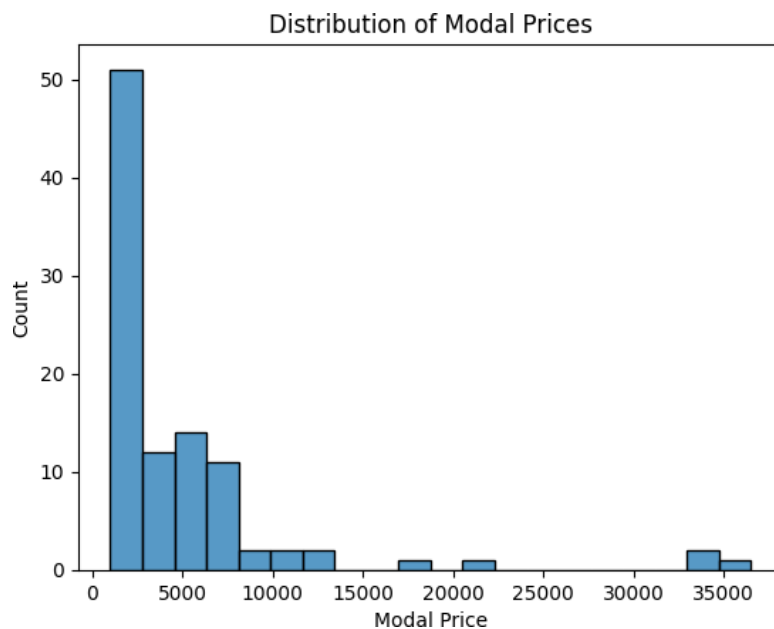
plt.ylabel('Average Modal Price')
plt.title('Average Modal Price by Commodity and Grade')
plt.xticks(rotation=45)
plt.legend(title='Grade')
plt.show()

# 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()

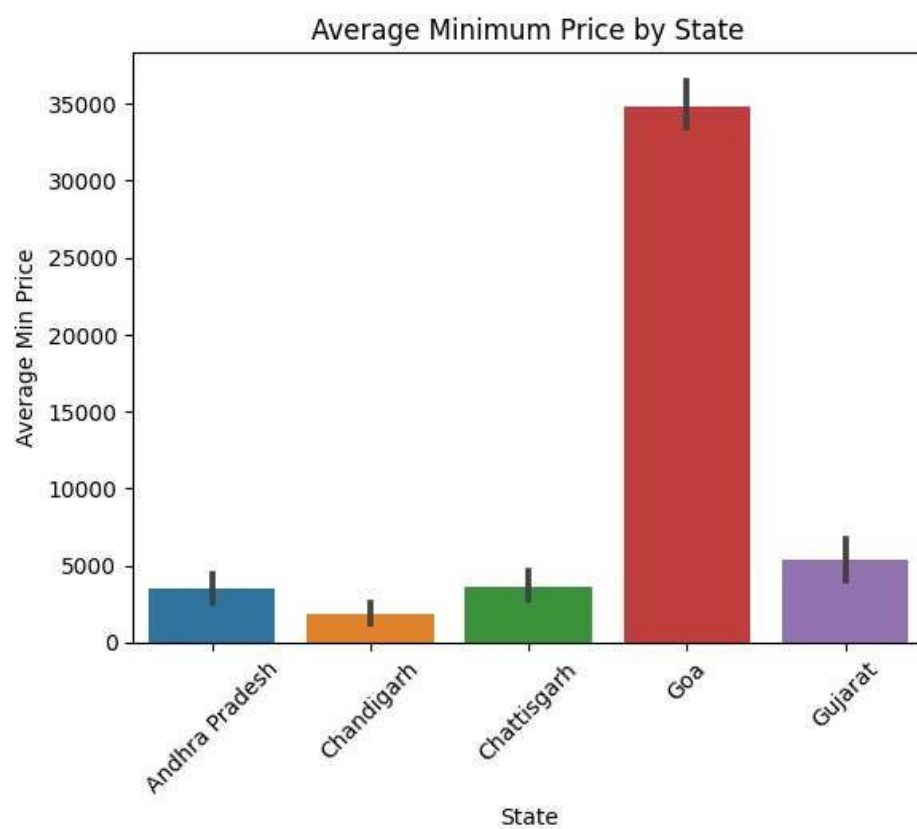
# Statement 15: Relationship between Modal Price and Market by District
sns.scatterplot(data=df, x='Modal Price', y='Market', hue='District')
plt.xlabel('Modal Price')
plt.ylabel('Market')
plt.title('Modal Price vs Market by District')
plt.legend(title='District')
plt.show()

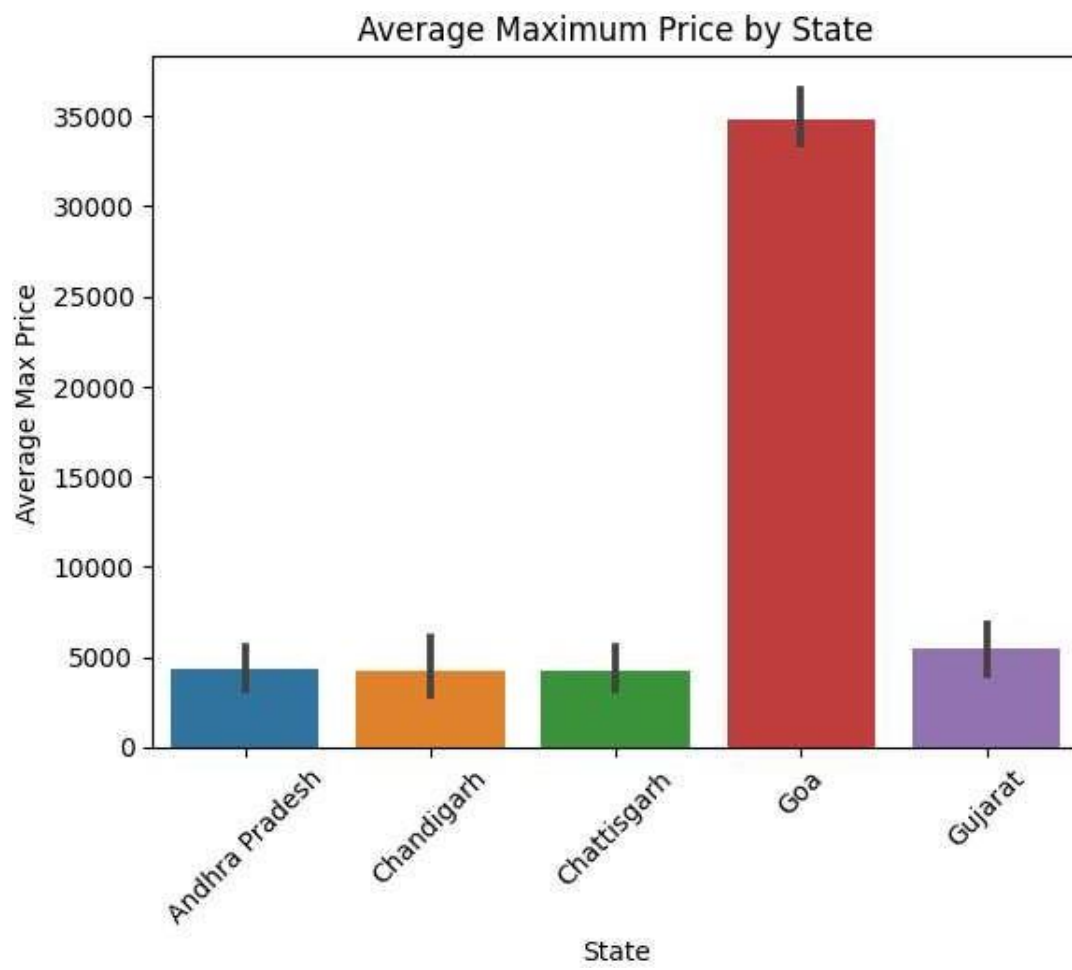
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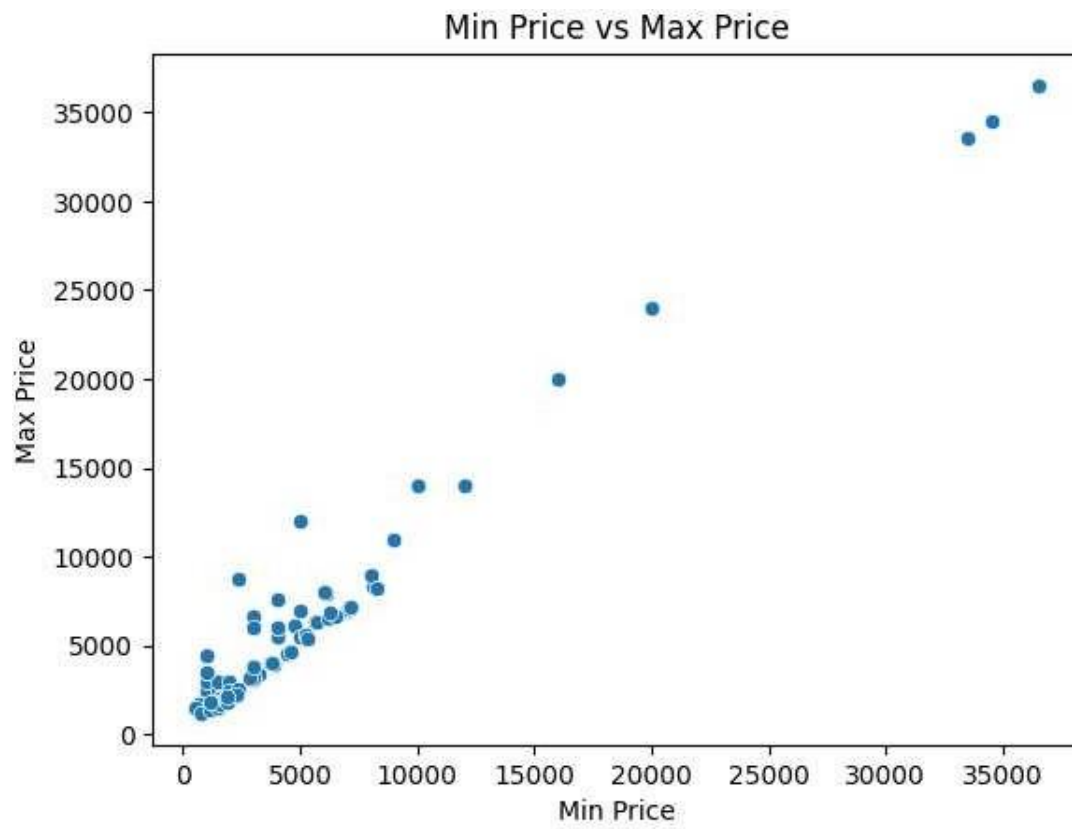
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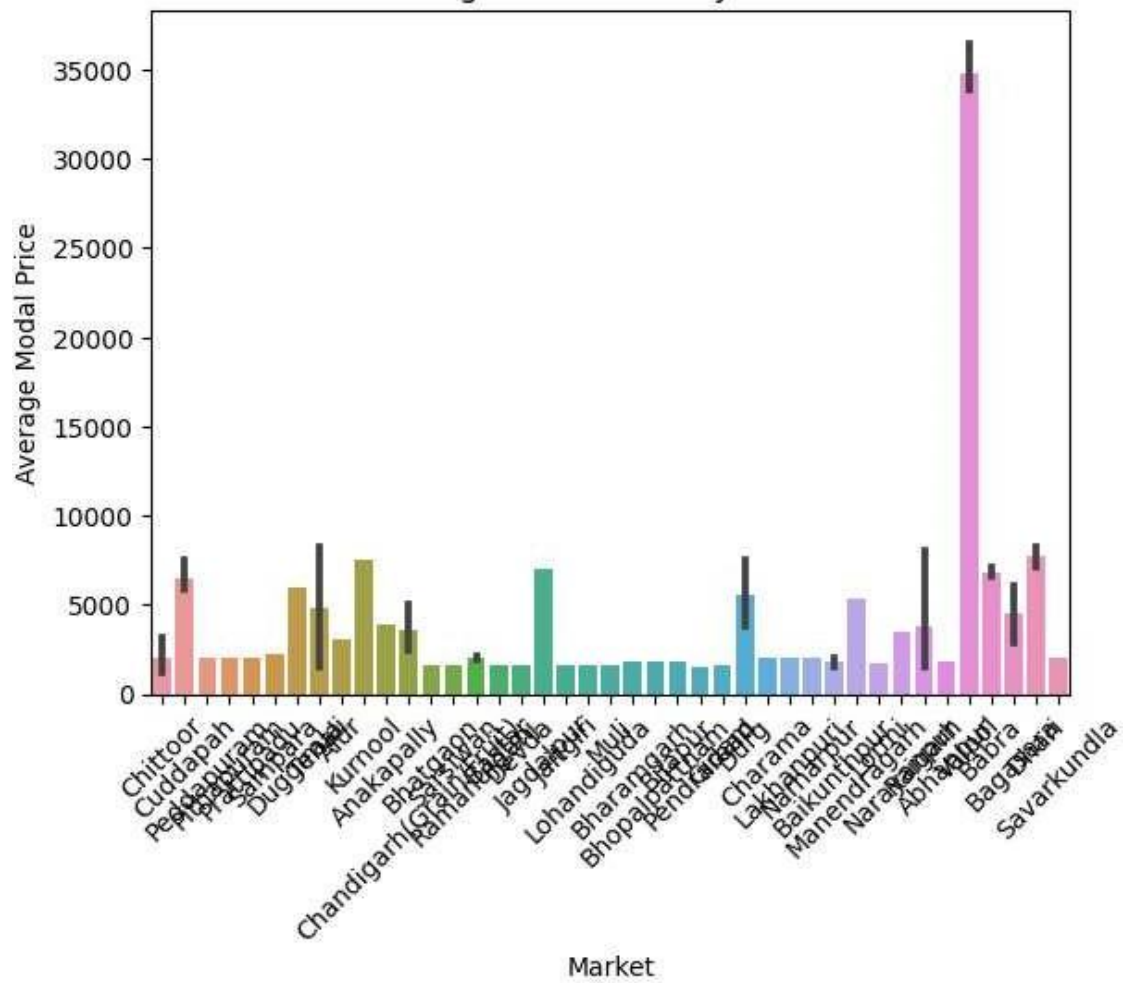
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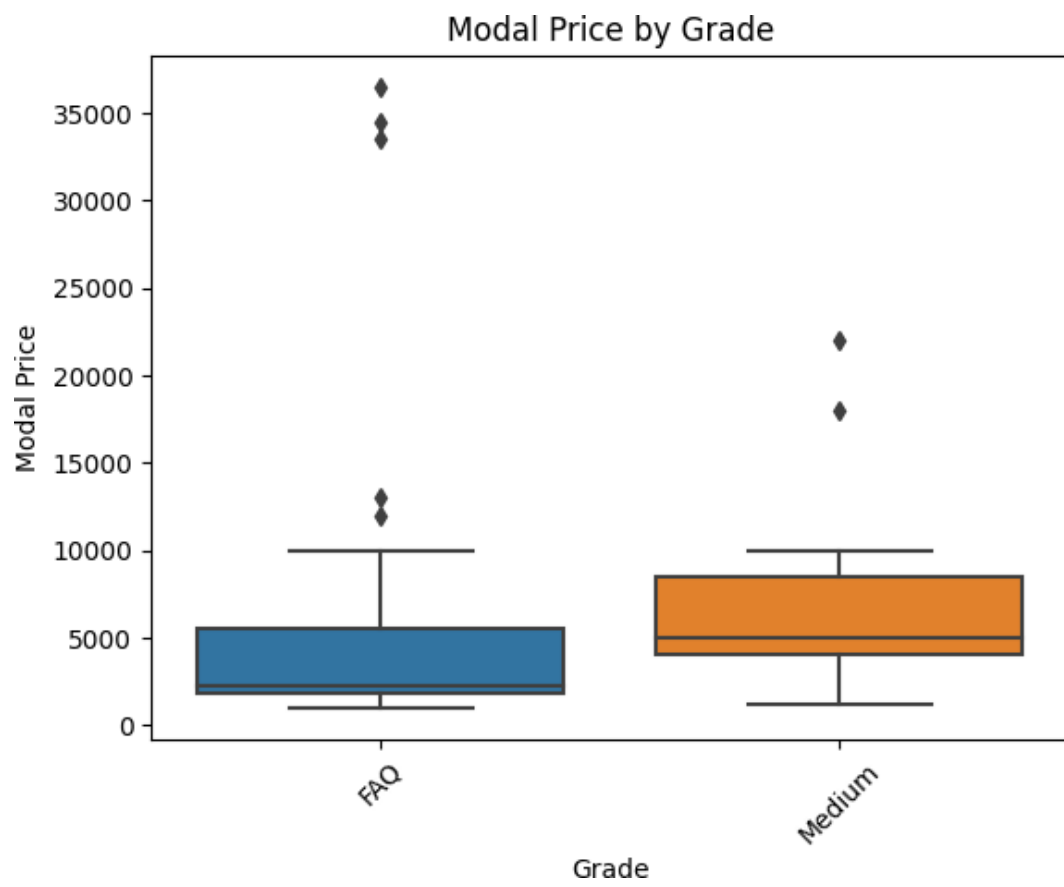




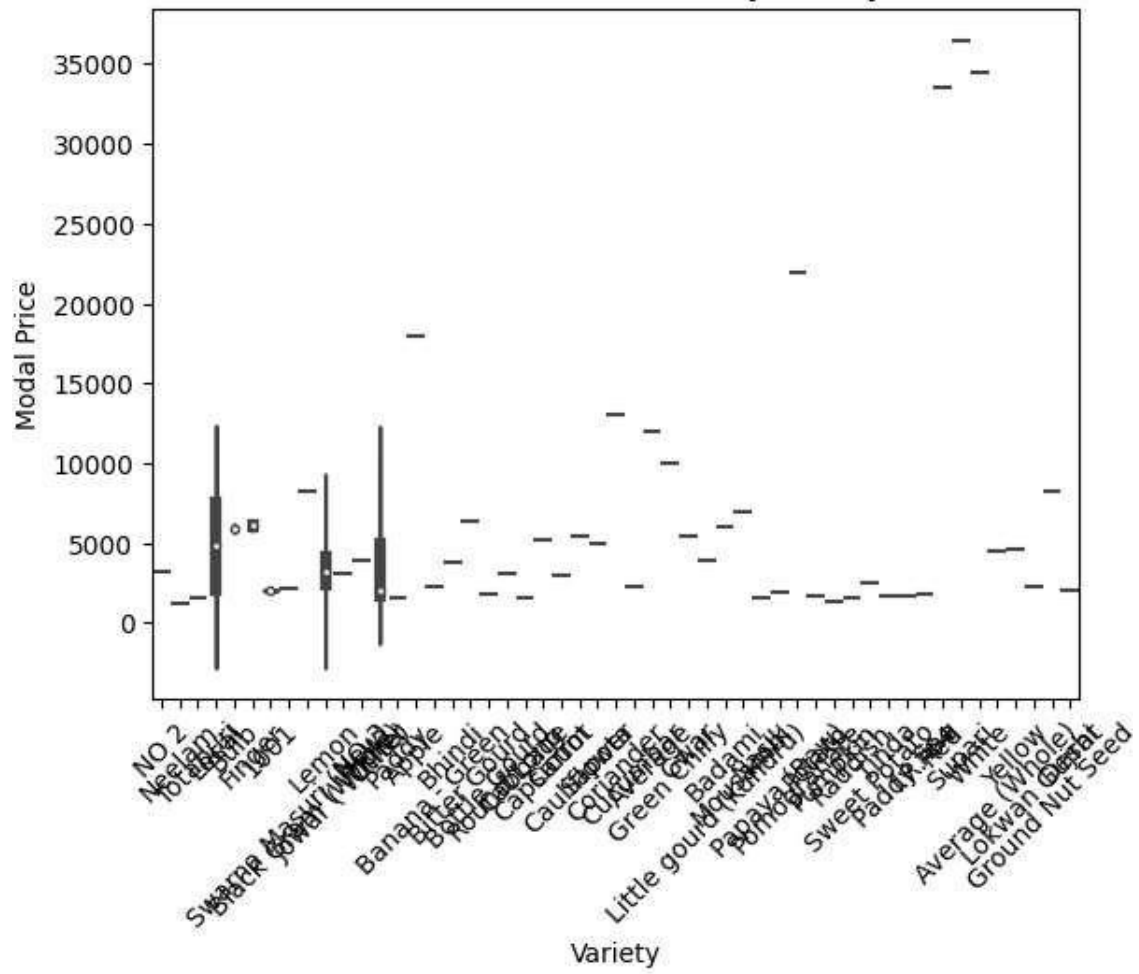


Average Modal Price by Market

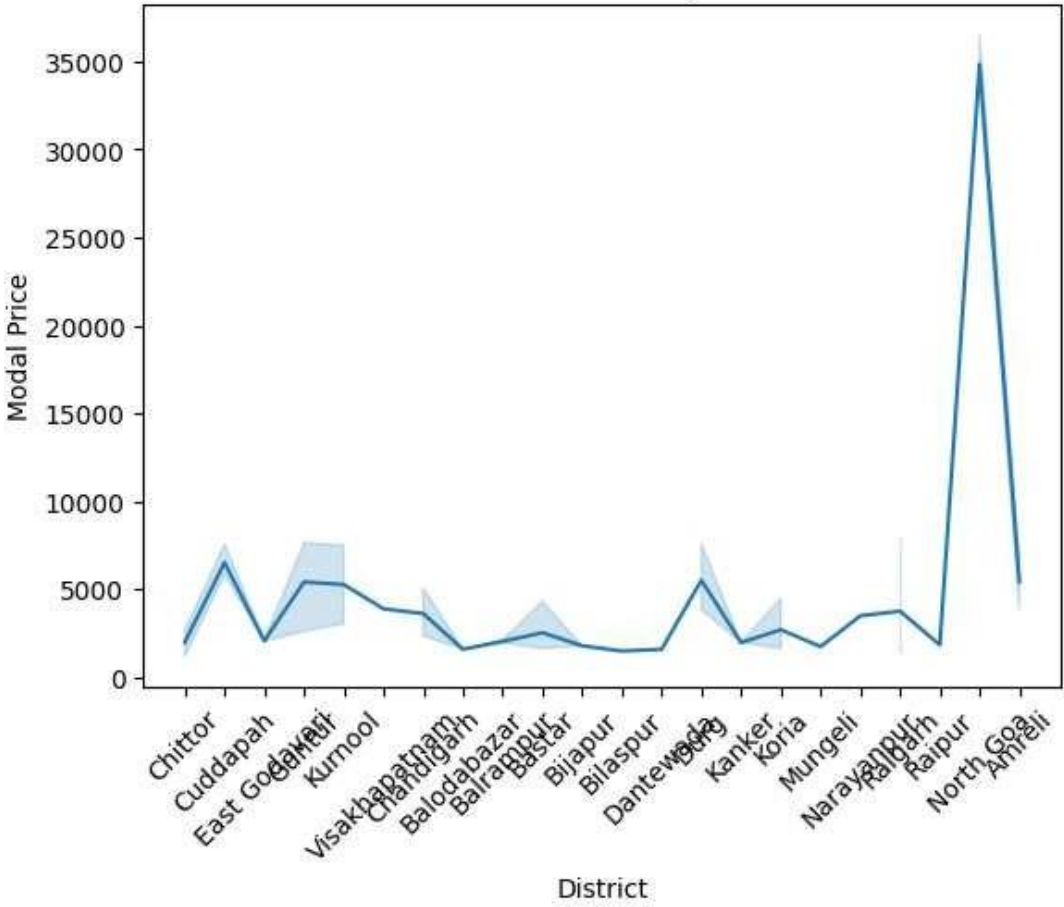




Modal Price Distribution by Variety

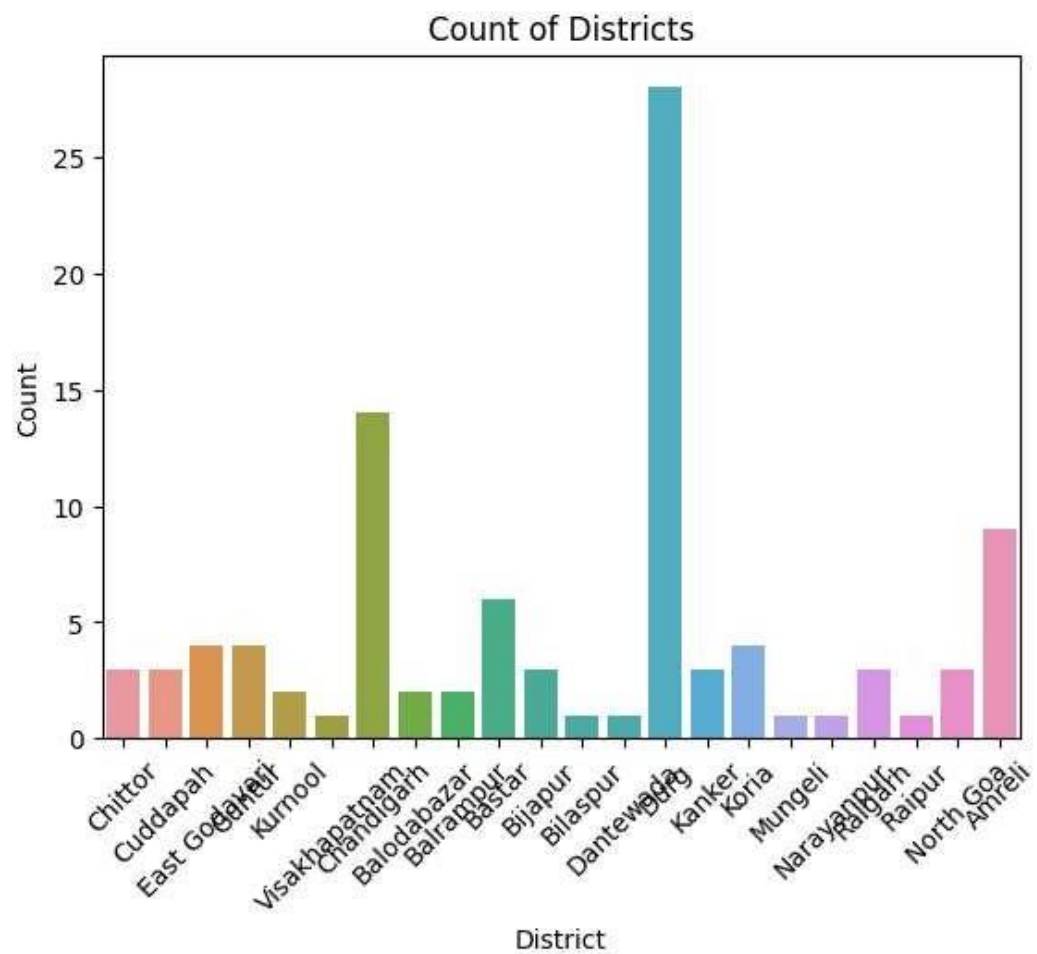


Modal Price Trend by District

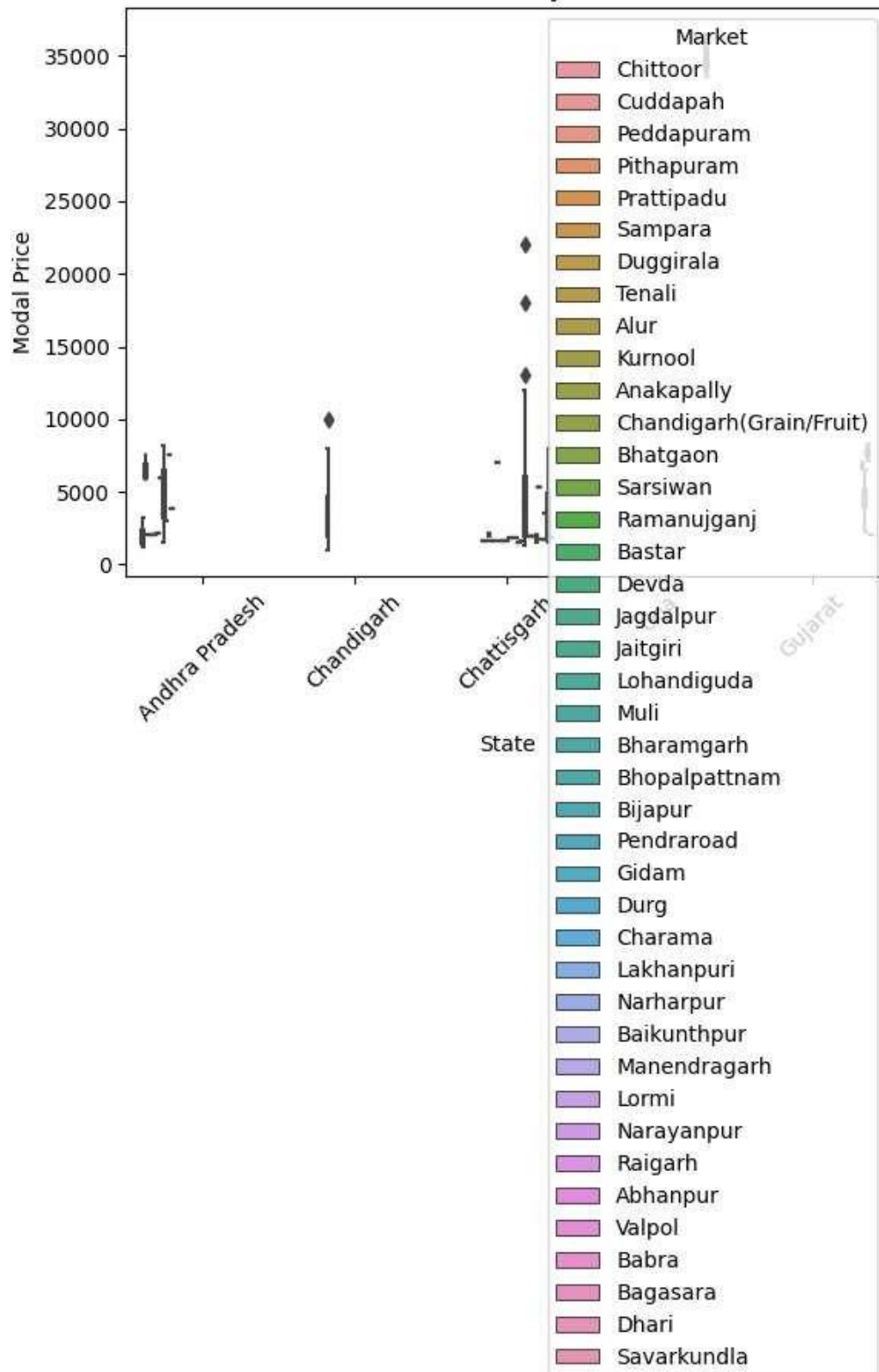


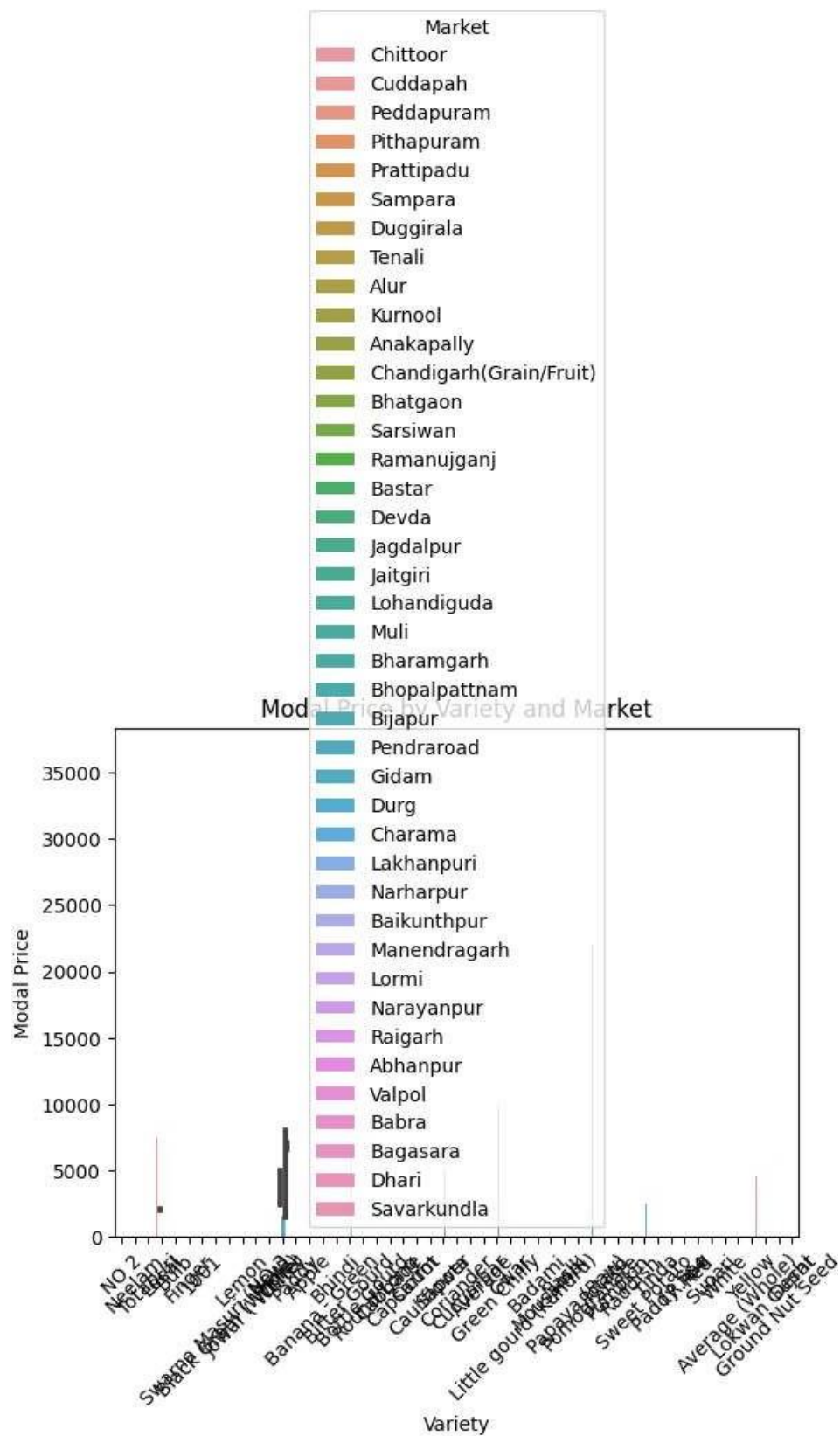
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Commodity

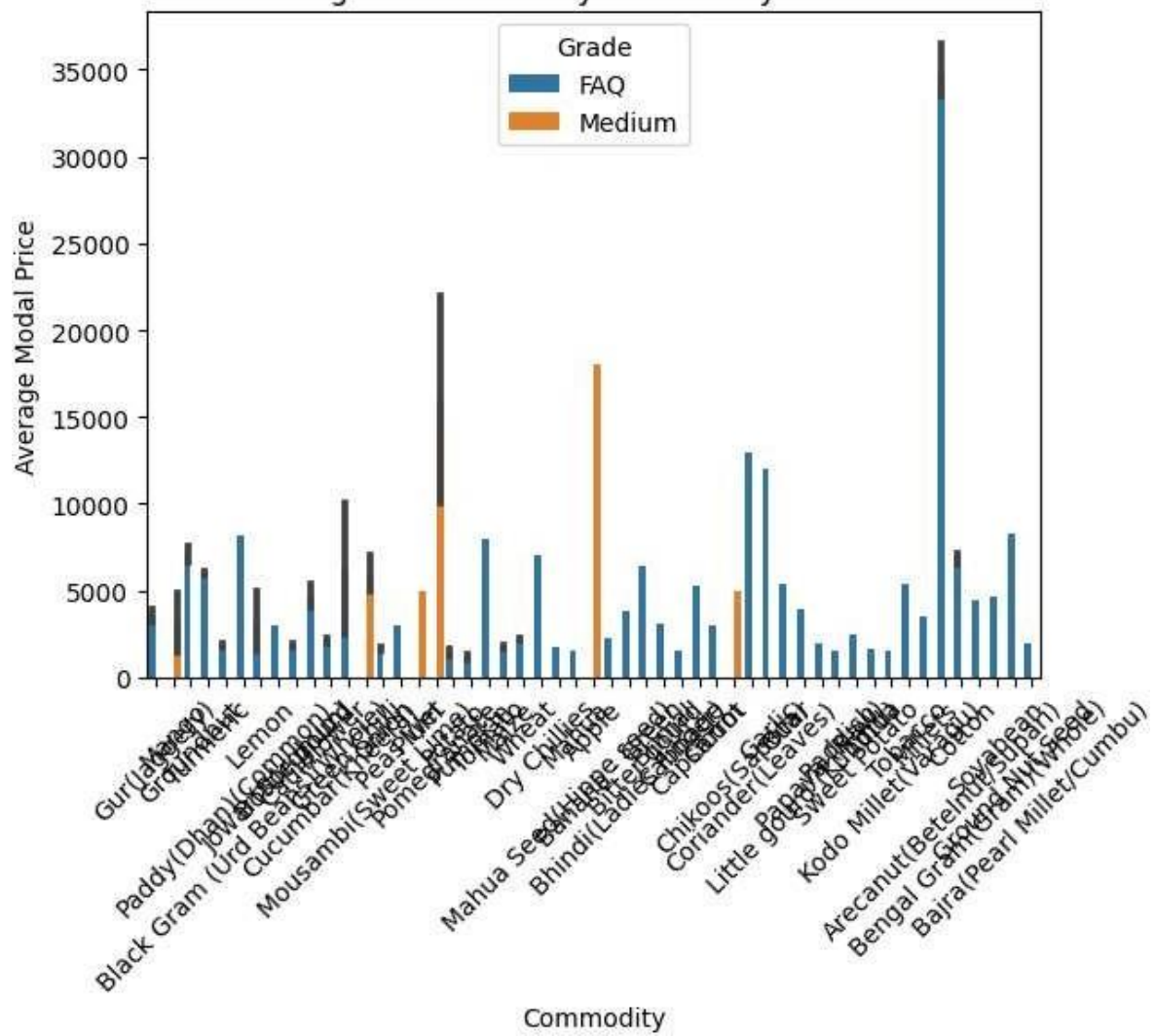


Modal Price Distribution by State and Market

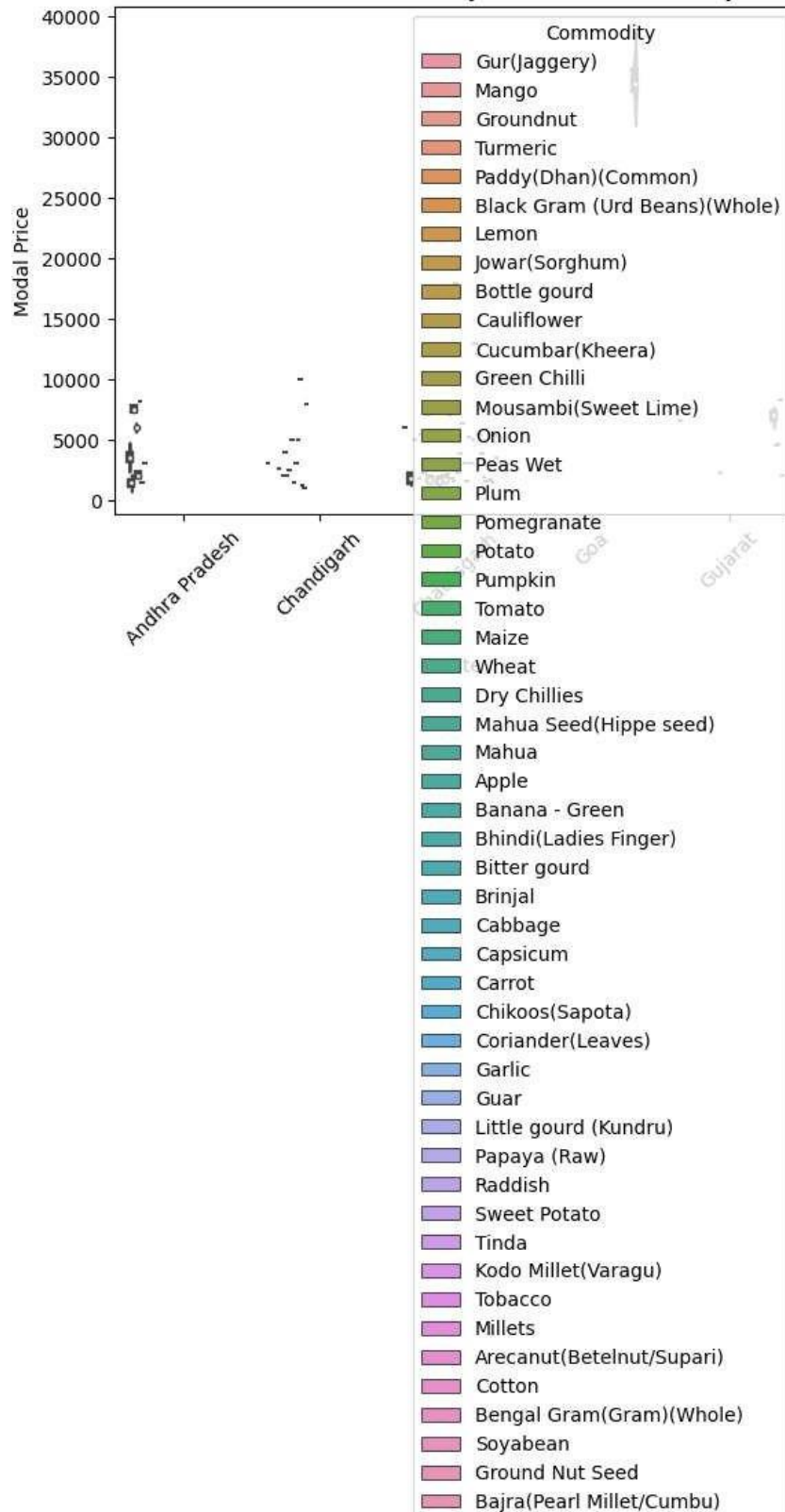




Average Modal Price by Commodity and Grade



Modal Price Distribution by State and Commodity



Modal Price vs Market by District

