Importing library

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
sns.set_theme(color_codes=True)
```

```
df=pd.read_csv('/content/drive/MyDrive/Data sets/Pizza Price Prediction/pizza_v2.csv')
df.head()
```

	company	price_rupiah	diameter	topping	variant	size	extra_sauce	e
0	A	Rp235,000	22 inch	chicken	double_signature	jumbo	yes	
1	A	Rp198,000	20 inch	papperoni	double_signature	jumbo	yes	
2	A	Rp120,000	16 inch	mushrooms	double_signature	reguler	yes	
3	A	Rp155,000	14 inch	smoked_beef	double_signature	reguler	yes	
4	A	Rp248,000	18 inch	mozzarella	double_signature	jumbo	yes	

```
df['price_rupiah']=df['price_rupiah'].str.replace('Rp','').str.replace(',','')
```

```
df['diameter']=df['diameter'].str.replace('inch',"").str.rstrip()
```

```
#df.astype({'price_rupiah':int,'diameter':int})
```

```
#changing data type

df['diameter']=pd.to_numeric(df['diameter'])
df['price_rupiah']=pd.to_numeric(df['price_rupiah'])
```

```
df.select_dtypes(include='object').nunique()
```

```
company      5
topping     12
variant     20
```

```
size               6
extra_sauce        2
extra_cheese       2
extra_mushrooms    2
dtype: int64
```

```
df.select_dtypes(include=int).nunique()
```

```
price_rupiah    43
dtype: int64
```

```
df.select_dtypes(include=float).nunique()
```

```
diameter    11
dtype: int64
```

```
df['variant'].unique()
```

```
array(['double_signature', 'american_favorite', 'super_supreme',
       'meat_lovers', 'double_mix', 'classic', 'crunchy', 'new_york',
       'double_decker', 'spicy_tuna', 'BBQ_meat_fiesta', 'BBQ_sausage',
       'extravaganza', 'meat_eater', 'gournet_greek', 'italian_veggie',
       'thai_veggie', 'american_classic', 'neptune_tuna', 'spicy tuna'],
      dtype=object)
```

```
from pandas.core.indexers.objects import VariableOffsetWindowIndexer
# define function to segment pizza names into types
def segment_pizza(variant_a):
  if 'veggie' in variant_a:
    return 'Veg'
  elif 'BBQ' in variant_a or 'meat' in variant_a:
    return 'Non-veg'
  elif 'tuna' in variant_a:
    return 'Seafood'
  else:
    return 'Other'

df['Pizza_Seg']=df['variant'].apply(segment_pizza)
```

```
df.loc[df['topping']=='chicken','Pizza_Seg']='Non-veg'
```

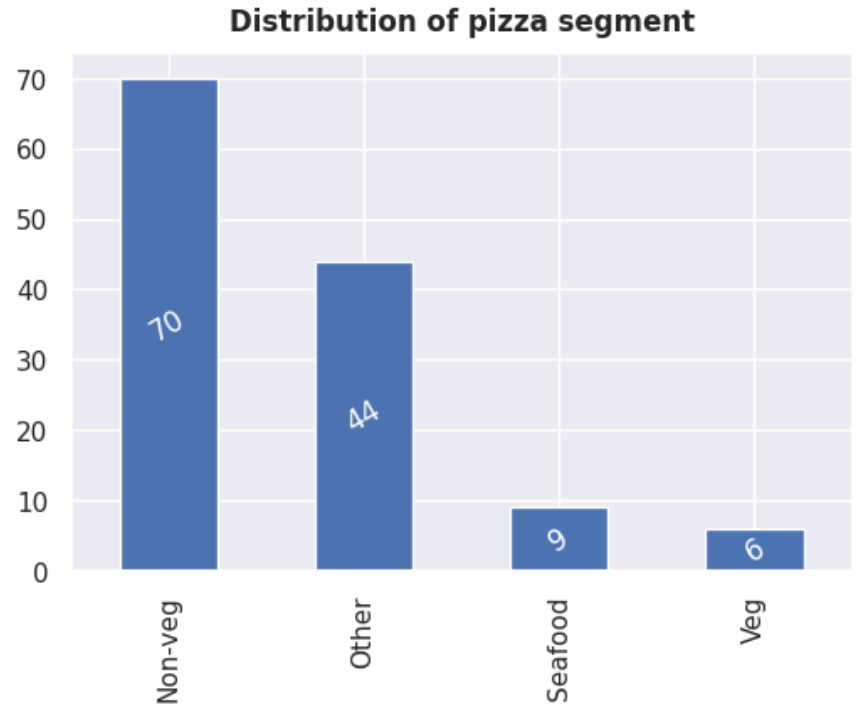
```
df.loc[df['topping'] == 'meat','Pizza_Seg']='Non-veg'
```

```
#df.loc[(df['topping'] == 'meat') | (df['topping'] == 'chicken')]
```

```
df.loc[df['topping'].str.contains('beef')|df['topping'].str.contains('papperoni'),'Pizza_Seg'] = 'Non-veg'
```

```
plt.figure(figsize=(6,4))
ax=df['Pizza_Seg'].value_counts().plot(kind='bar')
for container in ax.containers:
    ax.bar_label(container,color='white',weight='normal',rotation=30,label_type='center')
plt.title('Distribution of pizza segment',pad=10,weight='bold')
```

```
Text(0.5, 1.0, 'Distribution of pizza segment')
```




```
cat_vars=list(df.select_dtypes(include='object').nunique().index)
```

```
cat_vars.remove('variant')
cat_vars.remove('Pizza_Seg')
```

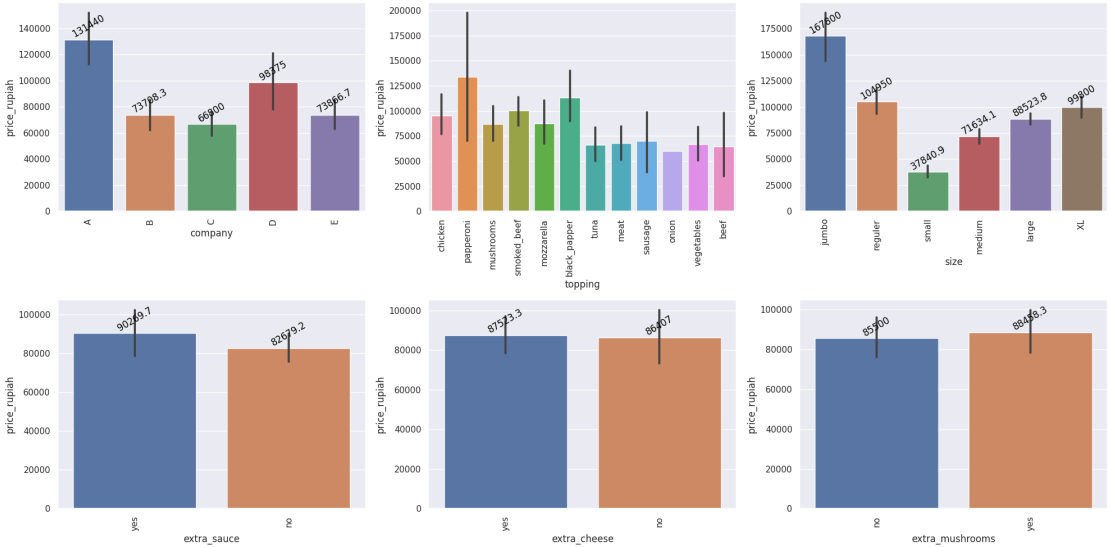
```
# list of categorical variables to plot
cat_vars
```

```
['company',
 'topping',
 'size',
 'extra_sauce',
 'extra_cheese',
 'extra_mushrooms']
```

```
from ast import If
fig,axs=plt.subplots(nrows=2,ncols=3,figsize=(20,10))
axs=axs.ravel()
# create barplot for each categorical variable
for i, var in enumerate(cat_vars):
    ax=sns.barplot(x=var, y='price_rupiah', data=df, ax=axs[i], estimator=np.mean)
    axs[i].set_xticklabels(axs[i].get_xticklabels(), rotation=90)
    if i!=1:
      for container in ax.containers:
        container.datavalues
        ax.bar_label(container,color='black',weight='normal',rotation=30,label_type='edge')

# adjust spacing between subplots
fig.tight_layout()

# show plot
plt.show()
```

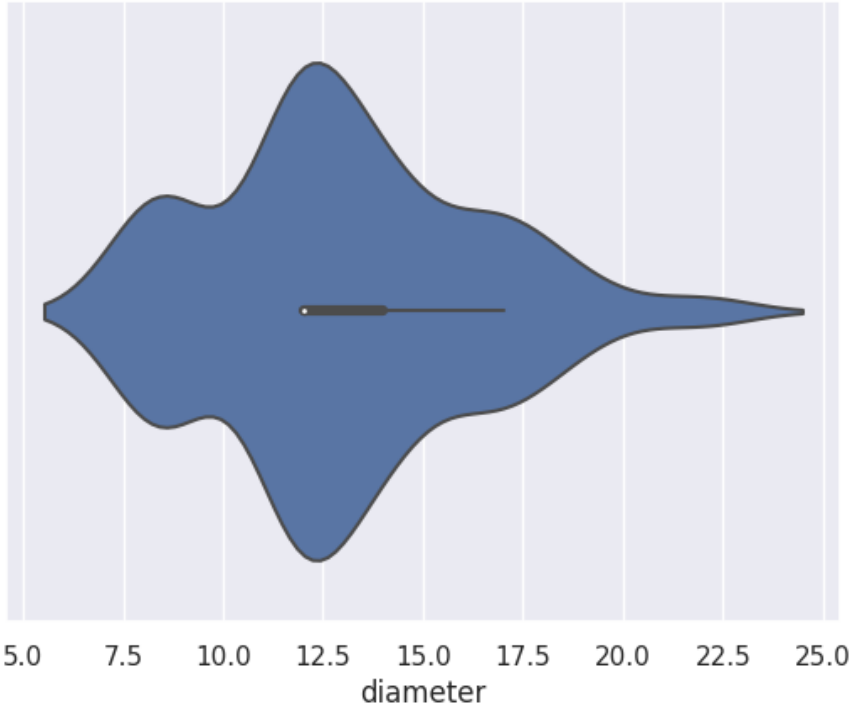



```
sns.boxplot(data=df,x='diameter')
```

```
<Axes: xlabel='diameter'>
```

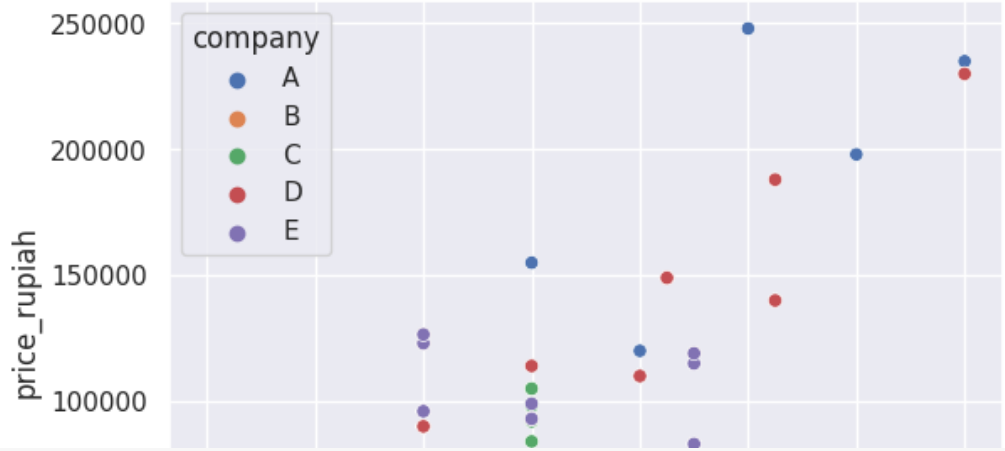
```
sns.violinplot(data=df,x='diameter')
```

```
<Axes: xlabel='diameter'>
```




```
sns.scatterplot(data=df,x='diameter',y='price_rupiah',hue='company')
```

```
<Axes: xlabel='diameter', ylabel='price_rupiah'>
```




```
df.describe().T
```

	count	mean	std	min	25%	50%	75%	
price_rupiah	129.0	87151.162791	44706.097732	23500.0	51000.0	78000.0	105000.0	2480
diameter	129.0	12.976744	3.272674	8.0	12.0	12.0	14.0	

```
df.corr()
```

```
<ipython-input-25-2f6f6606aa2c>:1: FutureWarning: The default value of numeric_only in
  df.corr()
```

	price_rupiah	diameter
price_rupiah	1.000000	0.826977
diameter	0.826977	1.000000

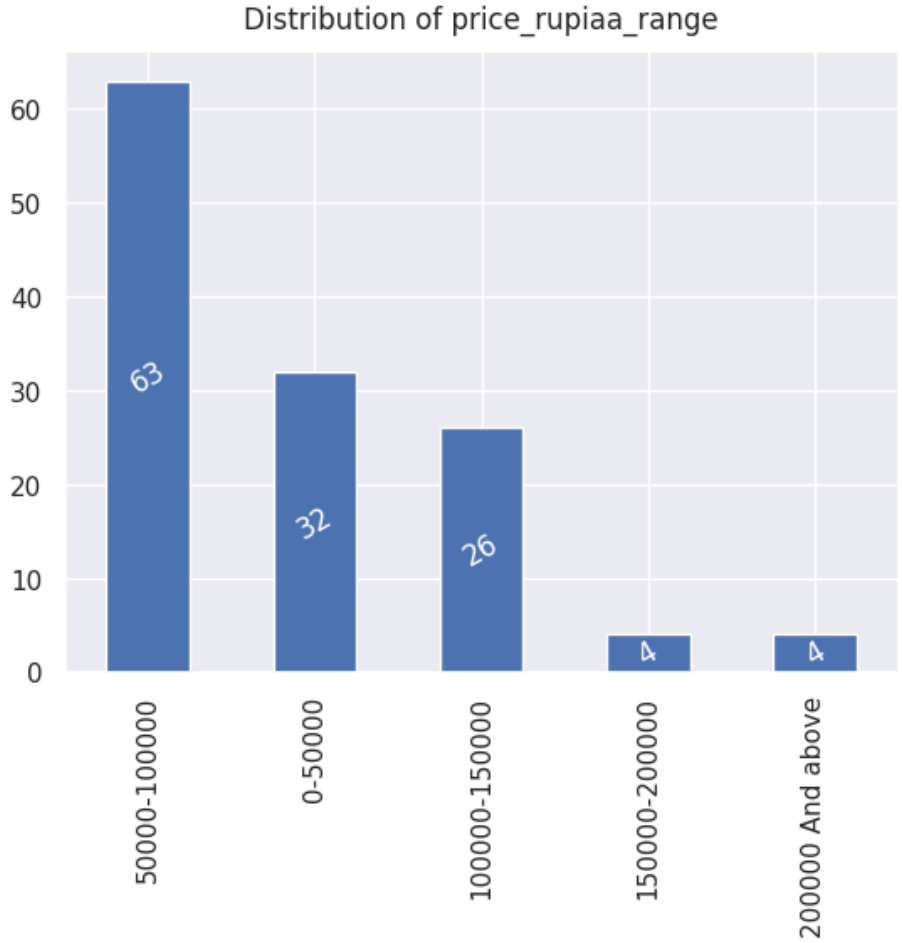
```
bins=np.arange(0,df['price_rupiah'].max()+50000,50000)
```

```
slot=['0-50000','50000-100000','100000-150000','150000-200000','200000 And above']
```

```
df['price_rupiah_range']=pd.cut(df['price_rupiah'],bins,labels=slot)
#bins
```

```
ax1=df['price_rupiah_range'].value_counts().plot(kind='bar')
for container1 in ax1.containers:
  ax1.bar_label(container1,color='white',label_type='center',rotation=30)
plt.title("Distribution of price_rupiaa_range",pad=10)
```

```
Text(0.5, 1.0, 'Distribution of price_rupiaa_range')
```



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