Amazon-Sales-Data-Analysis

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')
```

```
data = pd.read_csv("/content/Amazon Sales data.csv")
```

```
data.head()
```

	Region	Country	Item Type	Sales Channel	Order Priority	Order Date	Order ID	Ship Date	Units Sold
0	Australia and Oceania	Tuvalu	Baby Food	Offline	H	5/28/2010	669165933	6/27/2010	9925
1	Central America and the Caribbean	Grenada	Cereal	Online	C	8/22/2012	963881480	9/15/2012	2804
2	Europe	Russia	Office Supplies	Offline	L	5/2/2014	341417157	5/8/2014	1779
		Sao							

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 100 entries, 0 to 99
Data columns (total 14 columns):
 #   Column          Non-Null Count  Dtype
---  ------          --------------  -----
 0   Region          100 non-null    object
 1   Country         100 non-null    object
 2   Item Type       100 non-null    object
 3   Sales Channel   100 non-null    object
 4   Order Priority  100 non-null    object
 5   Order Date      100 non-null    object
 6   Order ID        100 non-null    int64
 7   Ship Date       100 non-null    object
 8   Units Sold      100 non-null    int64
 9   Unit Price      100 non-null    float64
 10  Unit Cost       100 non-null    float64
 11  Total Revenue   100 non-null    float64
 12  Total Cost      100 non-null    float64
```

```
 13  Total Profit    100 non-null    float64
dtypes: float64(5), int64(2), object(7)
memory usage: 11.1+ KB
```

```
data.describe()
```

	Order ID	Units Sold	Unit Price	Unit Cost	Total Revenue	Total Cost	
count	1.000000e+02	100.000000	100.000000	100.000000	1.000000e+02	1.000000e+02	1.000
mean	5.550204e+08	5128.710000	276.761300	191.048000	1.373488e+06	9.318057e+05	4.416
std	2.606153e+08	2794.484562	235.592241	188.208181	1.460029e+06	1.083938e+06	4.385
min	1.146066e+08	124.000000	9.330000	6.920000	4.870260e+03	3.612240e+03	1.258
25%	3.389225e+08	2836.250000	81.730000	35.840000	2.687212e+05	1.688680e+05	1.214
50%	5.577086e+08	5382.500000	179.880000	107.275000	7.523144e+05	3.635664e+05	2.907
75%	7.907551e+08	7369.000000	437.200000	263.330000	2.212045e+06	1.613870e+06	6.358

```
data.columns
```

```
Index(['Region', 'Country', 'Item Type', 'Sales Channel', 'Order Priority',
       'Order Date', 'Order ID', 'Ship Date', 'Units Sold', 'Unit Price',
       'Unit Cost', 'Total Revenue', 'Total Cost', 'Total Profit'],
      dtype='object')
```

```
data.isnull().sum()
```

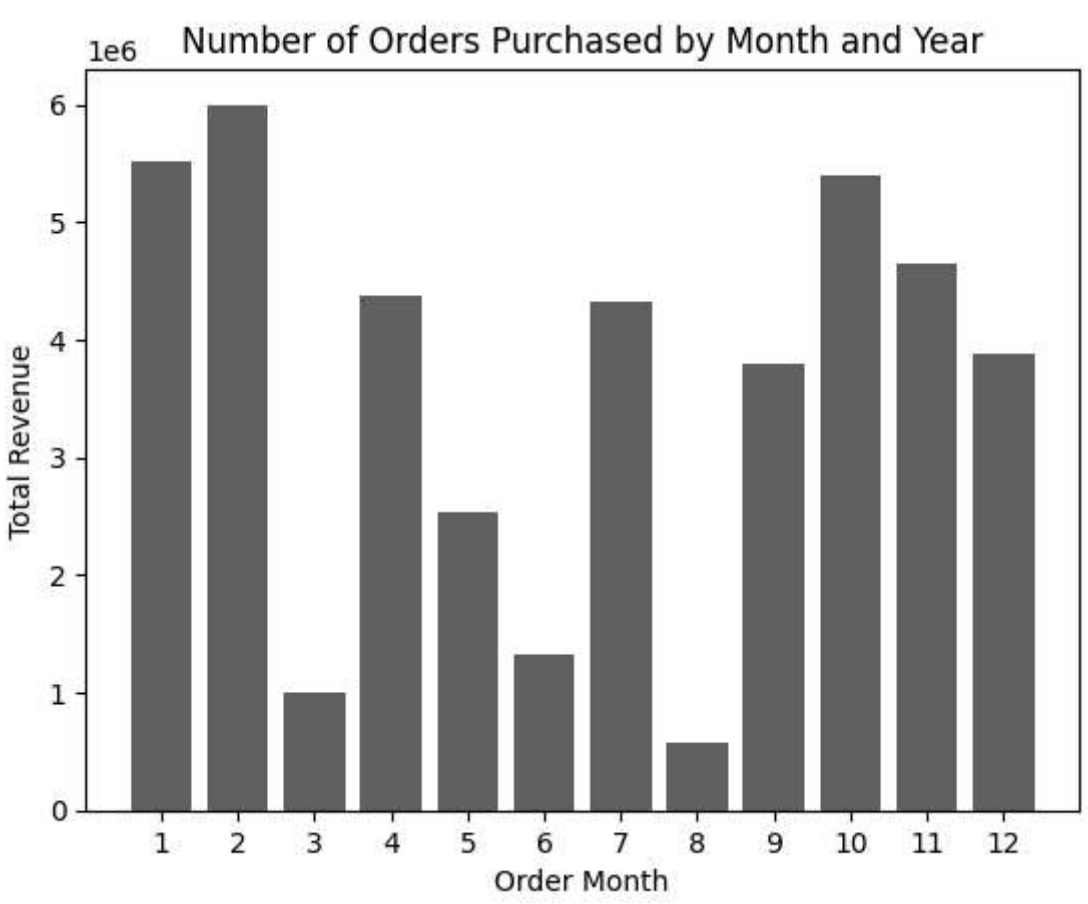
	0
Region	0
Country	0
Item Type	0
Sales Channel	0
Order Priority	0
Order Date	0
Order ID	0
Ship Date	0
Units Sold	0
Unit Price	0
Unit Cost	0
Total Revenue	0
Total Cost	0
Total Profit	0

dtype: int64

```
# Changing the data type of different column for model training and analysis
data['Order Date'] = pd.to_datetime(data['Order Date'])
data['Ship Date'] = pd.to_datetime(data['Ship Date'])


data['Region'] = data['Region'].astype(str)
data['Country'] = data['Country'].astype(str)
data['Item Type'] = data['Item Type'].astype(str)
data['Sales Channel'] = data['Sales Channel'].astype(str)
data['Order Priority'] = data['Order Priority'].astype(str)


data['Order Month'] = data['Order Date'].dt.month
data['Order Year'] = data['Order Date'].dt.year




# Correcting the column name from 'Oredr Date' to 'Order Date'
data['Order Date MonthYear'] = data['Order Date'].dt.strftime(' %Y-%m ')
```

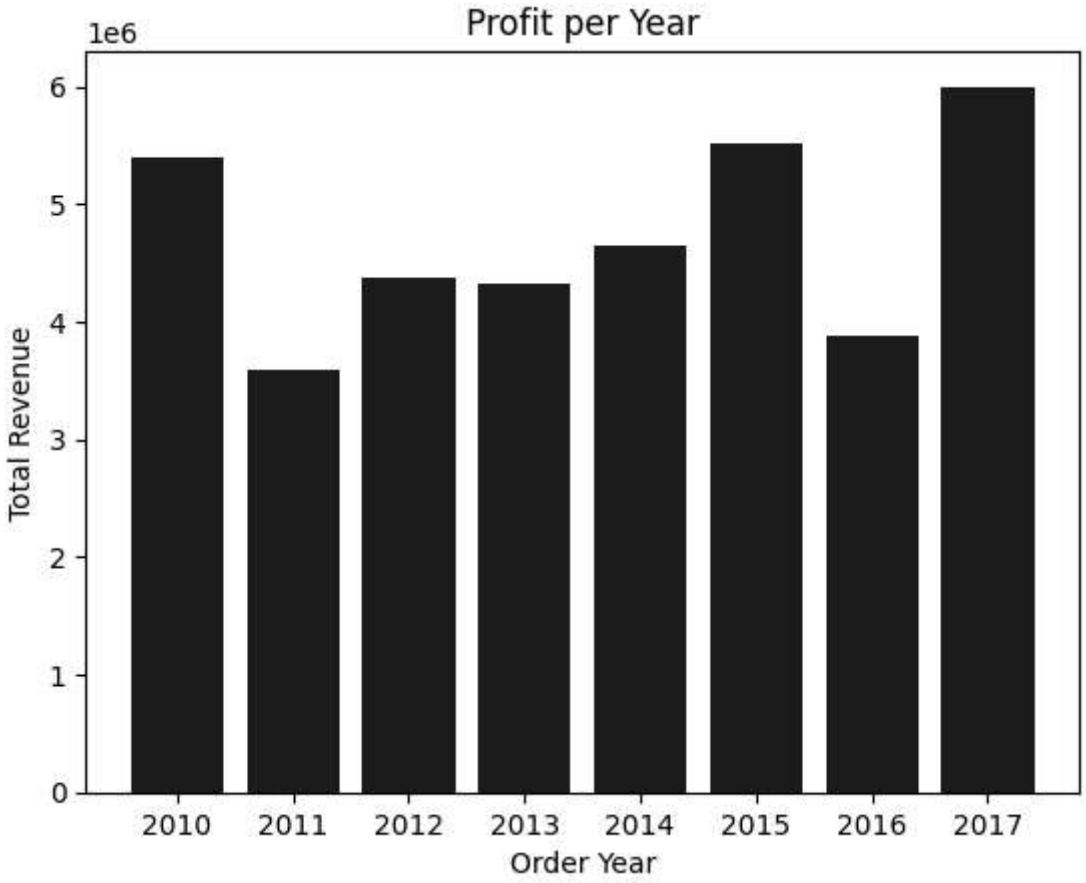
```
data = data.drop(columns=['Order Date']) # Correct the typo from 'Oredr Date' to 'Order Date
```

```
plt.bar(data['Order Month'], data['Total Revenue'])
plt.title('Number of Orders Purchased by Month and Year')
plt.xticks([1,2,3,4,5,6,7,8,9,10,11,12])
plt.xlabel("Order Month")
plt.ylabel('Total Revenue')
plt.show()
```

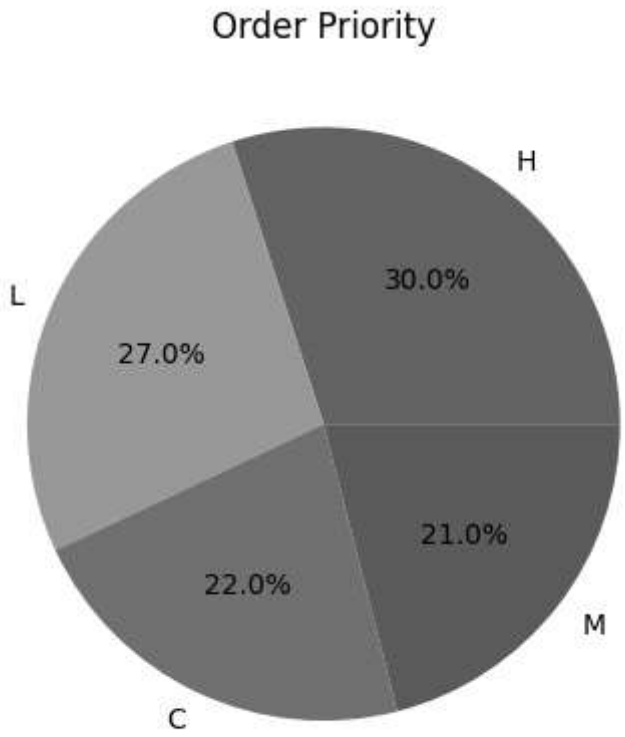



```
plt.bar(data['Order Year'], data['Total Revenue'],color='blue')
plt.xlabel('Order Year')
plt.ylabel('Total Revenue')
plt.title('Profit per Year')
plt
```

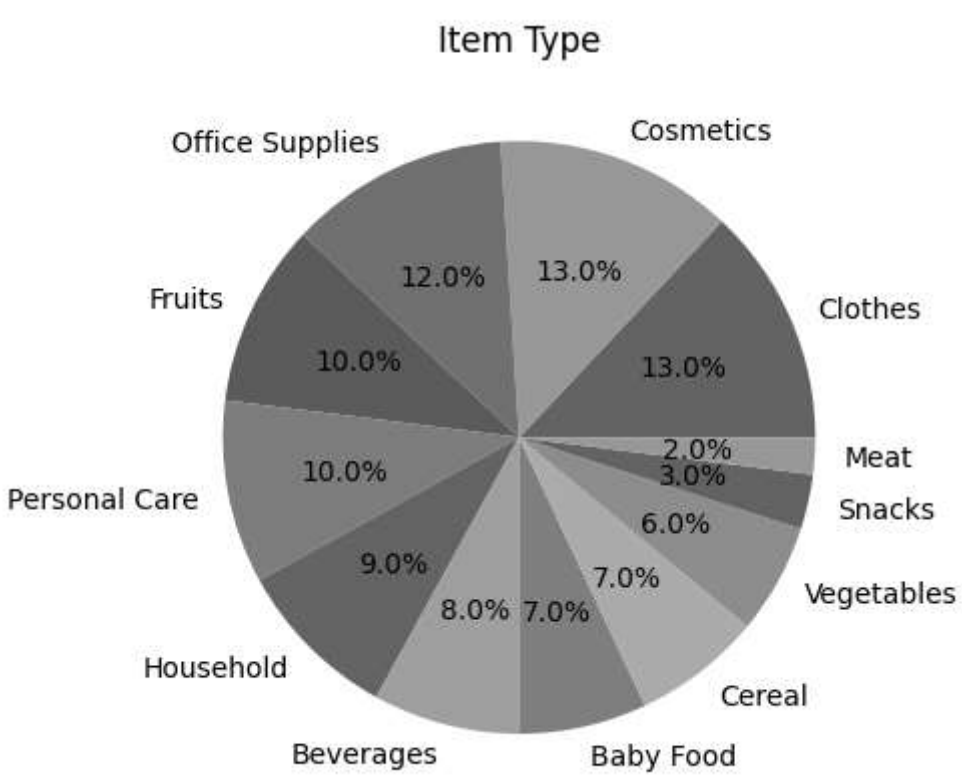
```
<module 'matplotlib.pyplot' from '/usr/local/lib/python3.10/dist-
packages/matplotlib/pyplot.py'>
```



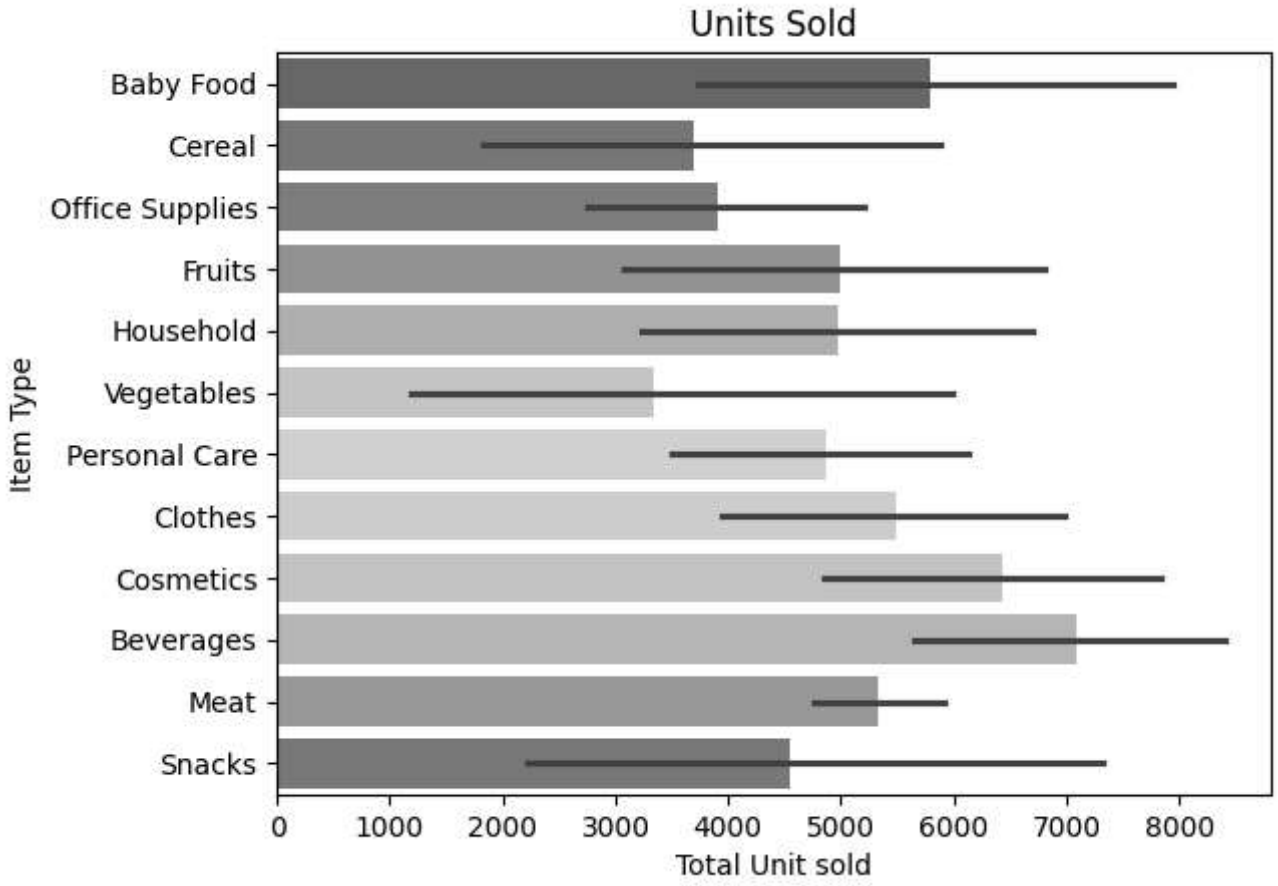

```
plt.pie(data['Order Priority'].value_counts(), labels=data['Order Priority'].value_counts().
plt.title('Order Priority')
plt.show()
```




```
plt.pie(data['Item Type'].value_counts(), labels=data['Item Type'].value_counts().index, aut
plt.title('Item Type')
plt.show()
```



```
sns.barplot(x=data['Units Sold'], y=data['Item Type'],palette='rainbow')
plt.title('Units Sold')
plt.xlabel('Total Unit sold')
plt.ylabel('Item Type')
plt.show()
```




```
plt.scatter(data['Total Revenue'], data['Region'])
plt.title('Total Revenue by Region')
plt.xlabel('Region')
plt.ylabel('Total Revenue')
```

```
Text(0, 0.5, 'Total Revenue')
```