In [2]:
```
import pandas as pd
```

In [4]:
```
df = pd.read_csv('supermarket_sales.csv')
```

In [6]:
```
df.shape
```

Out[6]:
```
(1000, 17)
```

In [7]:
```
df.head(10)
```

Out[7]:

| | Invoice ID | Branch | City | Customer type | Gender | Product line | Unit price | Quantity | Tax 5% | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 750-67-8428 | A | Yangon | Member | Female | Health and beauty | 74.69 | 7 | 26.1415 | 548.9715 | 1/ |
| **1** | 226-31-3081 | C | Naypyitaw | Normal | Female | Electronic accessories | 15.28 | 5 | 3.8200 | 80.2200 | 3/ |
| **2** | 631-41-3108 | A | Yangon | Normal | Male | Home and lifestyle | 46.33 | 7 | 16.2155 | 340.5255 | 3/ |
| **3** | 123-19-1176 | A | Yangon | Member | Male | Health and beauty | 58.22 | 8 | 23.2880 | 489.0480 | 1/2 |
| **4** | 373-73-7910 | A | Yangon | Normal | Male | Sports and travel | 86.31 | 7 | 30.2085 | 634.3785 | 2/ |
| **5** | 699-14-3026 | C | Naypyitaw | Normal | Male | Electronic accessories | 85.39 | 7 | 29.8865 | 627.6165 | 3/2 |
| **6** | 355-53-5943 | A | Yangon | Member | Female | Electronic accessories | 68.84 | 6 | 20.6520 | 433.6920 | 2/2 |
| **7** | 315-22-5665 | C | Naypyitaw | Normal | Female | Home and lifestyle | 73.56 | 10 | 36.7800 | 772.3800 | 2/2 |
| **8** | 665-32-9167 | A | Yangon | Member | Female | Health and beauty | 36.26 | 2 | 3.6260 | 76.1460 | 1/1 |
| **9** | 692-92-5582 | B | Mandalay | Member | Female | Food and beverages | 54.84 | 3 | 8.2260 | 172.7460 | 2/2 |

In [8]:
```
df.tail(10)
```

Out[8]:

| | Invoice ID | Branch | City | Customer type | Gender | Product line | Unit price | Quantity | Tax 5% | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **990** | 886-18-2897 | A | Yangon | Normal | Female | Food and beverages | 56.56 | 5 | 14.1400 | 296.9400 |
| **991** | 602-16-6955 | B | Mandalay | Normal | Female | Sports and travel | 76.60 | 10 | 38.3000 | 804.3000 |
| **992** | 745-74-0715 | A | Yangon | Normal | Male | Electronic accessories | 58.03 | 2 | 5.8030 | 121.8630 |
| **993** | 690-01-6631 | B | Mandalay | Normal | Male | Fashion accessories | 17.49 | 10 | 8.7450 | 183.6450 |
| **994** | 652-49-6720 | C | Naypyitaw | Member | Female | Electronic accessories | 60.95 | 1 | 3.0475 | 63.9975 |
| **995** | 233-67-5758 | C | Naypyitaw | Normal | Male | Health and beauty | 40.35 | 1 | 2.0175 | 42.3675 |
| **996** | 303-96-2227 | B | Mandalay | Normal | Female | Home and lifestyle | 97.38 | 10 | 48.6900 | 1022.4900 |
| **997** | 727-02-1313 | A | Yangon | Member | Male | Food and beverages | 31.84 | 1 | 1.5920 | 33.4320 |
| **998** | 347-56-2442 | A | Yangon | Normal | Male | Home and lifestyle | 65.82 | 1 | 3.2910 | 69.1110 |
| **999** | 849-09-3807 | A | Yangon | Member | Female | Fashion accessories | 88.34 | 7 | 30.9190 | 649.2990 |

In [10]:
```
df.describe()
```

Out[10]:

| | Unit price | Quantity | Tax 5% | Total | cogs | gross margin percentage | gross income | |
|---|---|---|---|---|---|---|---|---|
| **count** | 1000.000000 | 1000.000000 | 1000.000000 | 1000.000000 | 1000.00000 | 1000.000000 | 1000.000000 | 100 |
| **mean** | 55.672130 | 5.510000 | 15.379369 | 322.966749 | 307.58738 | 4.761905 | 15.379369 | |
| **std** | 26.494628 | 2.923431 | 11.708825 | 245.885335 | 234.17651 | 0.000000 | 11.708825 | |
| **min** | 10.080000 | 1.000000 | 0.508500 | 10.678500 | 10.17000 | 4.761905 | 0.508500 | |
| **25%** | 32.875000 | 3.000000 | 5.924875 | 124.422375 | 118.49750 | 4.761905 | 5.924875 | |
| **50%** | 55.230000 | 5.000000 | 12.088000 | 253.848000 | 241.76000 | 4.761905 | 12.088000 | |
| **75%** | 77.935000 | 8.000000 | 22.445250 | 471.350250 | 448.90500 | 4.761905 | 22.445250 | |
| **max** | 99.960000 | 10.000000 | 49.650000 | 1042.650000 | 993.00000 | 4.761905 | 49.650000 | 1 |

In [11]:
```
print(f'Number of rows with no missing values: {df.dropna().shape[0]}')
```

```
Number of rows with no missing values: 1000
```

In [12]:
```
print('Name: Mukund Dhar')
print('UCF ID: 5499369')
```

```
Name: Mukund Dhar
UCF ID: 5499369
```