```
import pandas as pd
```

```
df = pd.read_csv("https://raw.githubusercontent.com/AmenaNajeeb/Data/master/CardioGoodFitn
```

```
df.shape
```

```
(180, 9)
```

```
df.head(8)
```

	Product	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income	Miles
0	TM195	18	Male	14	Single	3	4	29562	112
1	TM195	19	Male	15	Single	2	3	31836	75
2	TM195	19	Female	14	Partnered	4	3	30699	66
3	TM195	19	Male	12	Single	3	3	32973	85
4	TM195	20	Male	13	Partnered	4	2	35247	47
5	TM195	20	Female	14	Partnered	3	3	32973	66
6	TM195	21	Female	14	Partnered	3	3	35247	75
7	TM195	21	Male	13	Single	3	3	32973	85

```
df.columns
```

```
Index(['Product', 'Age', 'Gender', 'Education', 'MaritalStatus', 'Usage',
       'Fitness', 'Income', 'Miles'],
      dtype='object')
```

```
df.tail()
```

	Product	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income	Miles
175	TM798	40	Male	21	Single	6	5	83416	200
176	TM798	42	Male	18	Single	5	4	89641	200
177	TM798	45	Male	16	Single	5	5	90886	160
178	TM798	47	Male	18	Partnered	4	5	104581	120
179	TM798	48	Male	18	Partnered	4	5	95508	180

```
df.describe()
```

	Age	Education	Usage	Fitness	Income	Miles
count	180.000000	180.000000	180.000000	180.000000	180.000000	180.000000
mean	28.788889	15.572222	3.455556	3.311111	53719.577778	103.194444
std	6.943498	1.617055	1.084797	0.958869	16506.684226	51.863605
min	18.000000	12.000000	2.000000	1.000000	29562.000000	21.000000
25%	24.000000	14.000000	3.000000	3.000000	44058.750000	66.000000
50%	26.000000	16.000000	3.000000	3.000000	50596.500000	94.000000
75%	33.000000	16.000000	4.000000	4.000000	58668.000000	114.750000

```
df['Product']
```

```
0      TM195
1      TM195
2      TM195
3      TM195
4      TM195
       ...
175    TM798
176    TM798
177    TM798
178    TM798
179    TM798
Name: Product, Length: 180, dtype: object
```

```
df[["Age"]]
```

	Age
0	18
1	19
2	19
3	19
4	20
...	...
175	40
176	42
177	45
178	47
179	48

180 rows × 1 columns

```
df_income=df.groupby(["Income"])
```

```
df_income.mean()
```

```
<ipython-input-20-88628851a0b1>:1: FutureWarning: The default value of numeric_only i
  df_income.mean()
```

Income	Age	Education	Usage	Fitness	Miles
29562	18.0	14.0	3.0	4.0	112.0
30699	19.0	14.0	4.0	3.0	66.0
31836	19.0	14.5	2.5	3.0	69.5
32973	20.2	13.0	2.6	2.8	68.4
34110	21.6	14.6	2.8	2.8	100.2
...	...	...	...	...	...
95508	48.0	18.0	4.0	5.0	180.0
95866	33.0	18.0	4.0	5.0	200.0
99601	30.0	18.0	5.0	5.0	150.0
103336	30.0	18.0	5.0	4.0	160.0
104581	42.5	18.0	4.5	5.0	135.0

62 rows × 5 columns

```
df_product = df.groupby(["Product"])
```

```
df_product.mean()
```

```
<ipython-input-22-a1f9a88414dd>:1: FutureWarning: The default value of numeric_only i
  df_product.mean()
```

Product	Age	Education	Usage	Fitness	Income	Miles
TM195	28.55	15.037500	3.087500	2.9625	46418.025	82.787500
TM498	28.90	15.116667	3.066667	2.9000	48973.650	87.933333
TM798	29.10	17.325000	4.775000	4.6250	75441.575	166.900000

```
df_product.max()
```

	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income	Miles	Product

```
df[df["Miles"]>90]
```

	Product	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income	Miles
0	TM195	18	Male	14	Single	3	4	29562	112
8	TM195	21	Male	15	Single	5	4	35247	141
16	TM195	23	Female	14	Single	2	3	34110	103
17	TM195	23	Male	16	Partnered	4	3	39795	94
18	TM195	23	Female	16	Single	4	3	38658	113
...	...	...	...	...	...	...	...	...	...
175	TM798	40	Male	21	Single	6	5	83416	200
176	TM798	42	Male	18	Single	5	4	89641	200
177	TM798	45	Male	16	Single	5	5	90886	160
178	TM798	47	Male	18	Partnered	4	5	104581	120
179	TM798	48	Male	18	Partnered	4	5	95508	180

93 rows × 9 columns

```
df[df["MaritalStatus"]=="Single"]
```

	Product	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income	Miles
0	TM195	18	Male	14	Single	3	4	29562	112
1	TM195	19	Male	15	Single	2	3	31836	75
3	TM195	19	Male	12	Single	3	3	32973	85
7	TM195	21	Male	13	Single	3	3	32973	85
8	TM195	21	Male	15	Single	5	4	35247	141
...	...	...	...	...	...	...	...	...	...
165	TM798	29	Male	18	Single	5	5	52290	180
172	TM798	34	Male	16	Single	5	5	92131	150
175	TM798	40	Male	21	Single	6	5	83416	200
176	TM798	42	Male	18	Single	5	4	89641	200
177	TM798	45	Male	16	Single	5	5	90886	160

73 rows × 9 columns

```
df.columns
```

```
Index(['Product', 'Age', 'Gender', 'Education', 'MaritalStatus', 'Usage',
       'Fitness', 'Income', 'Miles'],
      dtype='object')
```

```
df[['Age','Education','Fitness']].agg(['mean','max','min'])
```

	Age	Education	Fitness
mean	28.788889	15.572222	3.311111
max	50.000000	21.000000	5.000000
min	18.000000	12.000000	1.000000

```
df.iloc[:,:-1]
```

	Product	Age	Gender	Education	MaritalStatus	Usage	Fitness	Income
0	TM195	18	Male	14	Single	3	4	29562
1	TM195	19	Male	15	Single	2	3	31836
2	TM195	19	Female	14	Partnered	4	3	30699
3	TM195	19	Male	12	Single	3	3	32973
4	TM195	20	Male	13	Partnered	4	2	35247
...	...	...	...	...	...	...	...	...
175	TM798	40	Male	21	Single	6	5	83416
176	TM798	42	Male	18	Single	5	4	89641
177	TM798	45	Male	16	Single	5	5	90886
178	TM798	47	Male	18	Partnered	4	5	104581
179	TM798	48	Male	18	Partnered	4	5	95508

180 rows × 8 columns

```
df.iloc[:,:5]
```

	Product	Age	Gender	Education	MaritalStatus
0	TM195	18	Male	14	Single
1	TM195	19	Male	15	Single
2	TM195	19	Female	14	Partnered
3	TM195	19	Male	12	Single
4	TM195	20	Male	13	Partnered
176	TM798	42	Male	18	Single
177	TM798	45	Male	16	Single
178	TM798	47	Male	18	Partnered
179	TM798	48	Male	18	Partnered

180 rows × 5 columns