Business Presentation

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Business Problem Overview and Solution Approach

Core Business Idea

- Identify Potential customers and Increase core customer base in order to increase product sales and revenue.

Problem to Tackle:

- Identify customer segments for each of the products TM195, TM498 & TM748.
- Identify deficiencies if any in the current target segmentation.
- Map products for different income groups so that pricing and features may be customized accordingly.

Financial Implications:
- Increase Sales of low end products and Margins of high end products there by increase overall Revenue.

Data Overview

Variable	Description
Product	The model no. of the treadmill
Age	Age of the customer (# Years)
Gender	Gender of the customer
Education	# of years of Education of the customer
Marital Status	Single vs Partnered status of the customer
Usage	Avg. # times the customer wants to use the treadmill every week
Fitness	Self rated fitness score of the customer (5 - very fit, 1 - very unfit)
Income	Annual Income of the customer
Miles	# Miles customer expects to run

| Observations	Variables
180	9

Note:
In this data, there are variables like income, miles, Age, Education, Usage that affect the product sales.

1. There are no missing values
2. Fitness is converted to a categorical variable.

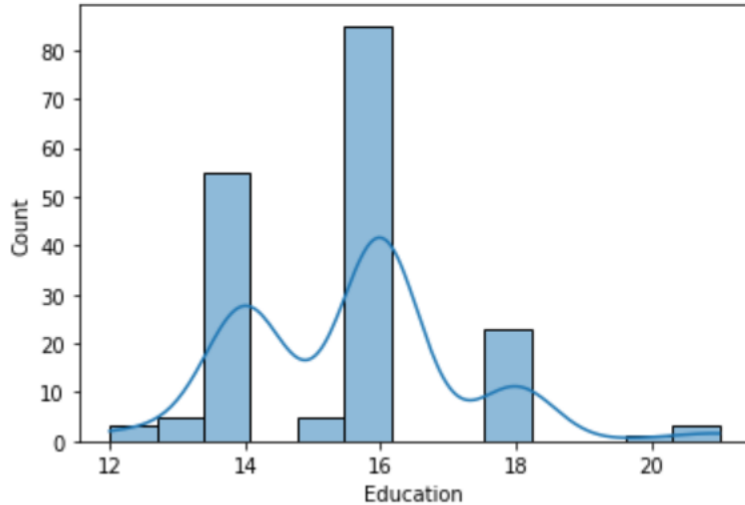# **Exploratory** Data Analysis - Age

- The distribution of Age is positive skewed

- Majority of customers fall into the age group 24-27

- Median age is 26 and the mean age is 29

- Which most of the customers are of age group 24-27,

We have a few observations where there are customers'
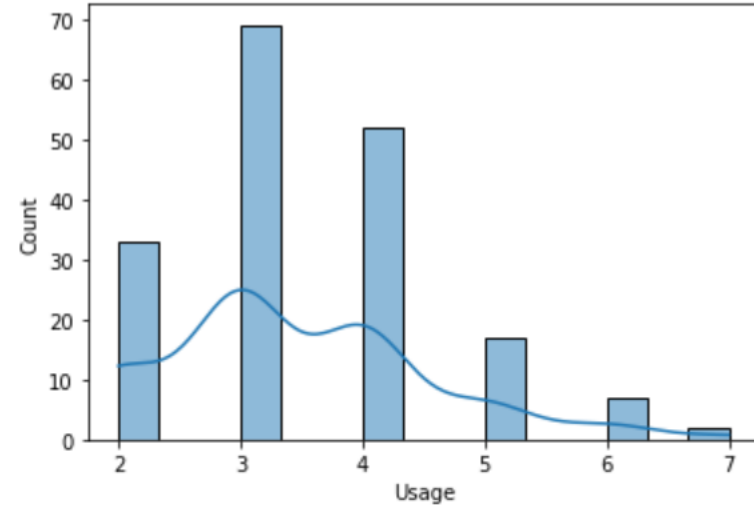
belonging to age group 45-50 as well
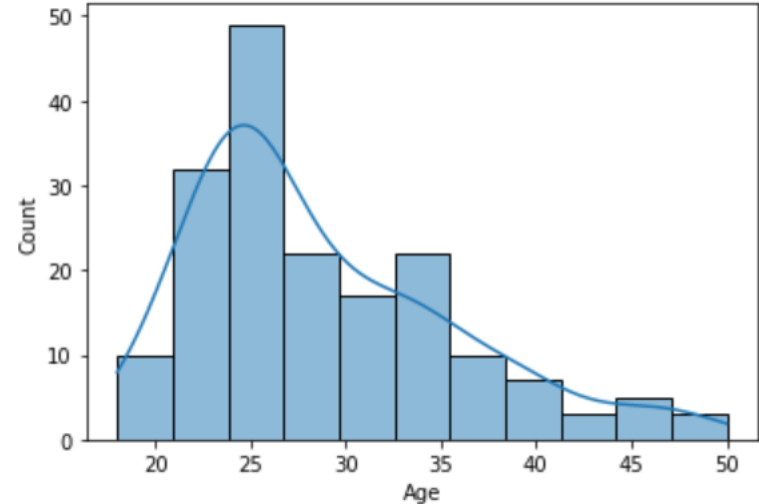
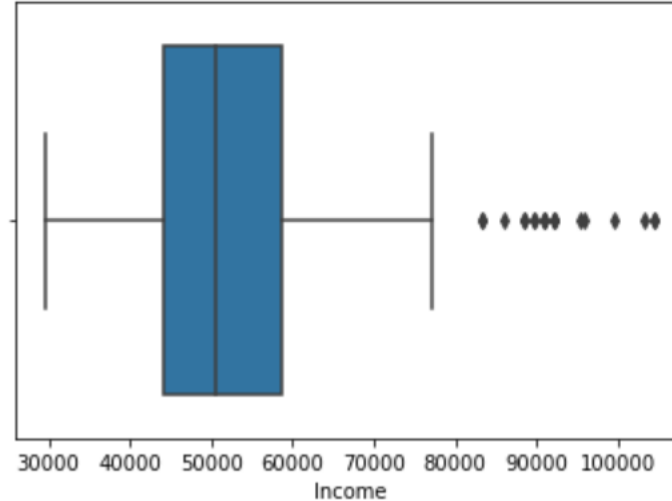# Exploratory Data Analysis - Education, Usage

<AxesSubplot:xlabel='Education', ylabel='Count'>

<AxesSubplot:xlabel='Usage', ylabel='Count'>

- The distribution is negative skewed.
- Most of the customers have 14 - 16 years of education
- Though there are some who have more than 20 years.

- Most of the customers wants to use the threadmill thrice a week.
- The distribution of the Usage is positively skewed.
- The mean is 3.5 times/weak and median is 3 times/weak
- There are very less customers who want to use the threadmill everyday.

Exploratory Data Analysis - Income
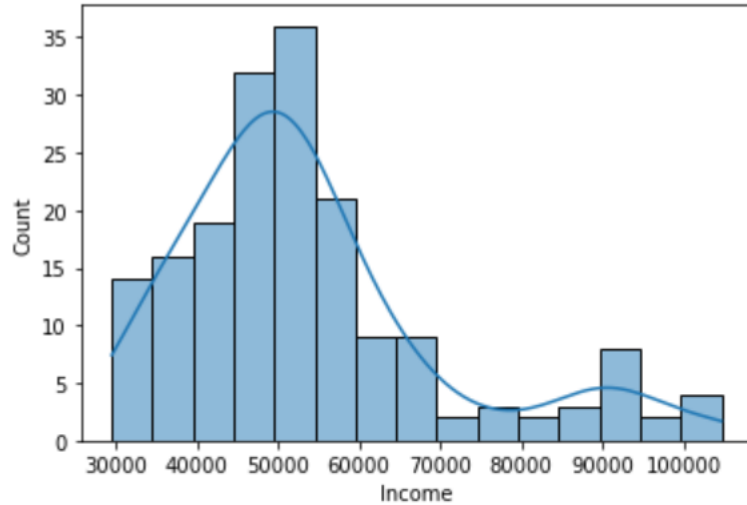
- The distribution is highly positive skewed
- Most of the customers income fall around (~50000)
- There are many outliers in this variable.
- While most of the customers Income are at lower end, we have observations where miles went as high as (~100000)

Exploratory Data Analysis - Miles
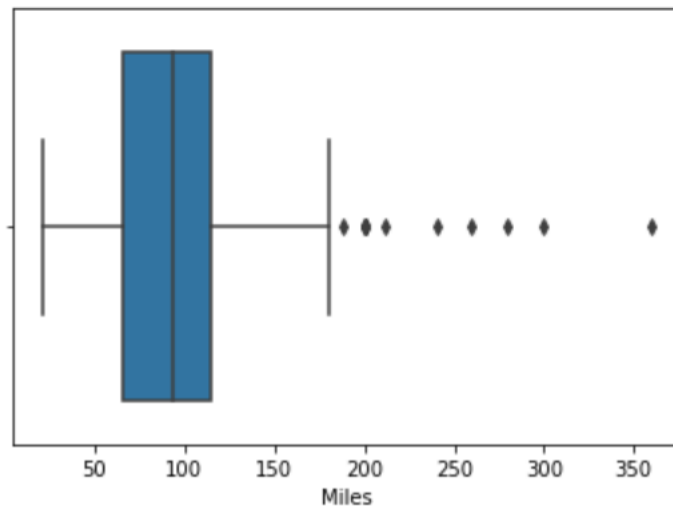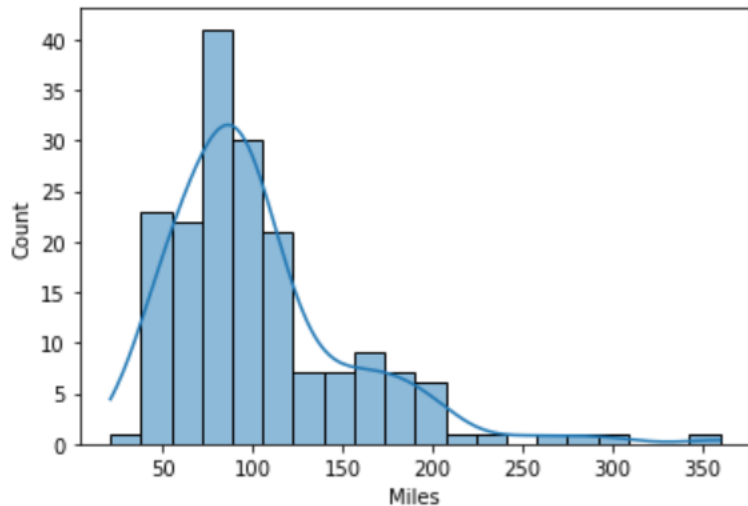
- The distribution of miles is highly right skewed.
- Most of the customers are expected to run 75 miles.
- Mean and median are almost close to ~100
- There are outliers in this variable.
- While most of the miles are at lower end, we have observations where miles went as high as (~350)

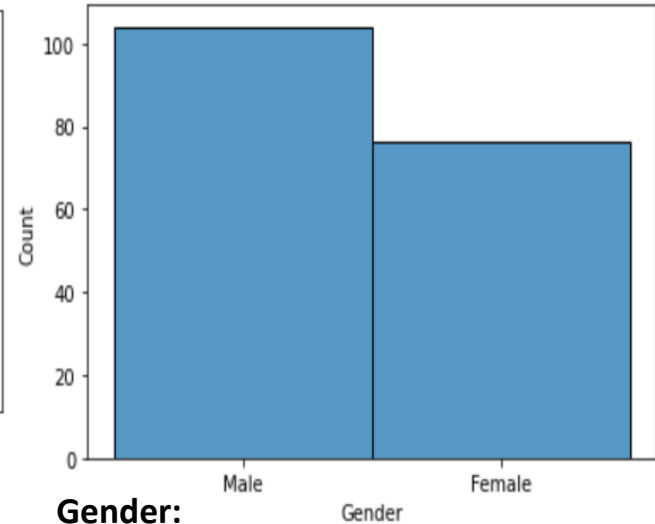# EDA – Categorical Variables – Product, Marital Status, Gender
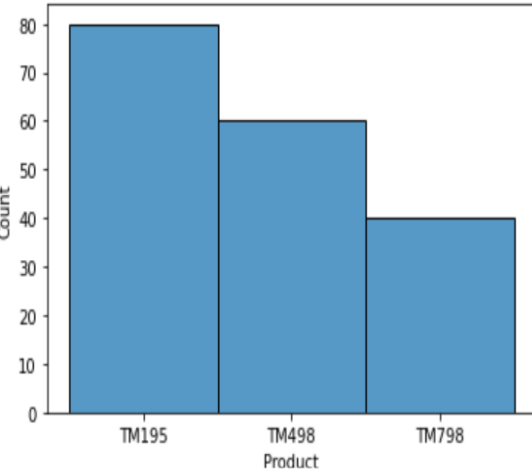
Products:
- Most of the customers use the Product TM195(44.4%), 33.3% customers use TM498 and 22.2% customers use TM798
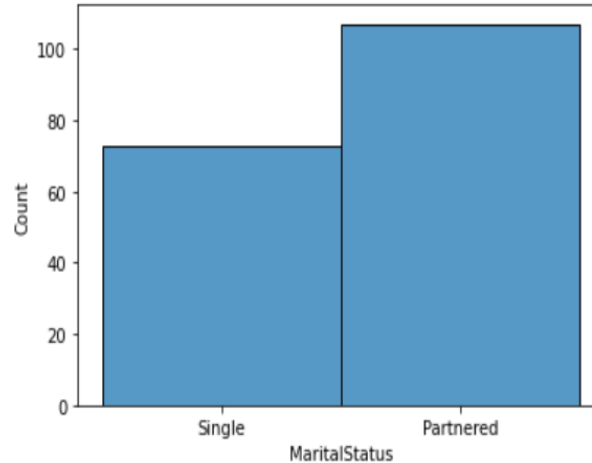
Marital Status:
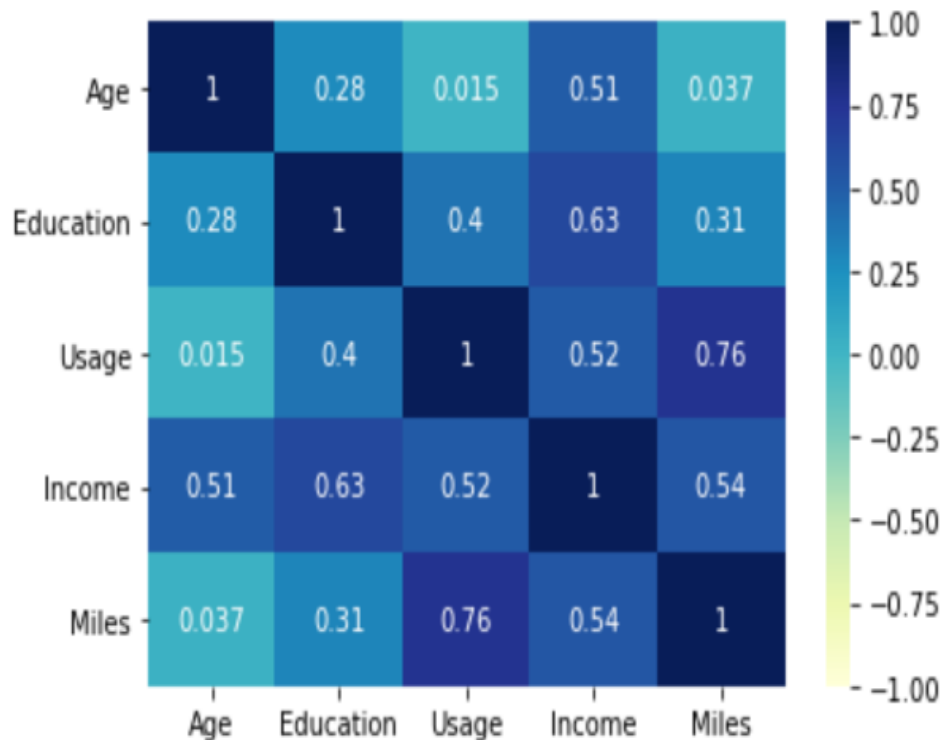59.4% of the customers are Partnered.

Gender:
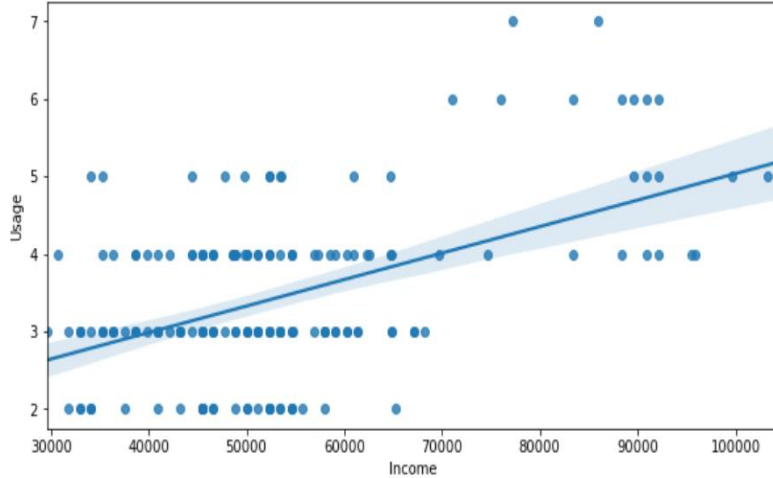Number of Male customers are more than Female customers.

# EDA – Correlation Matrix

‹AxesSubplot:›

- Miles show high correlation with Usage
- There does not seem strong relation between age and education.
- It is important to note that correlation does not imply causation.
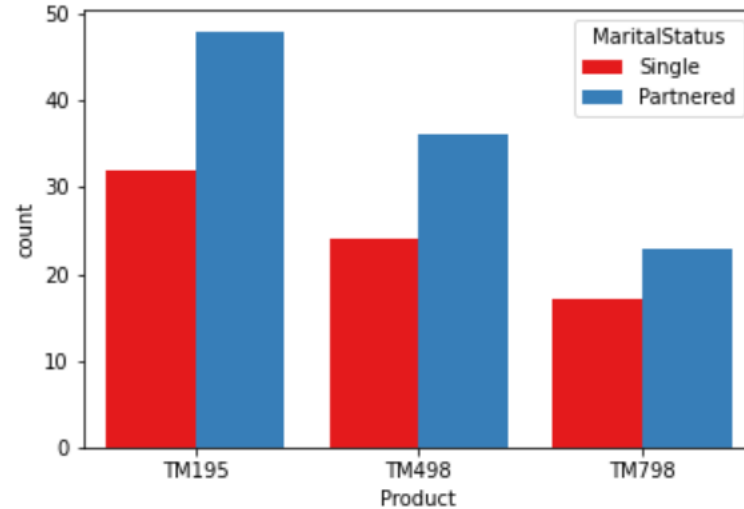- All are positively correlated.
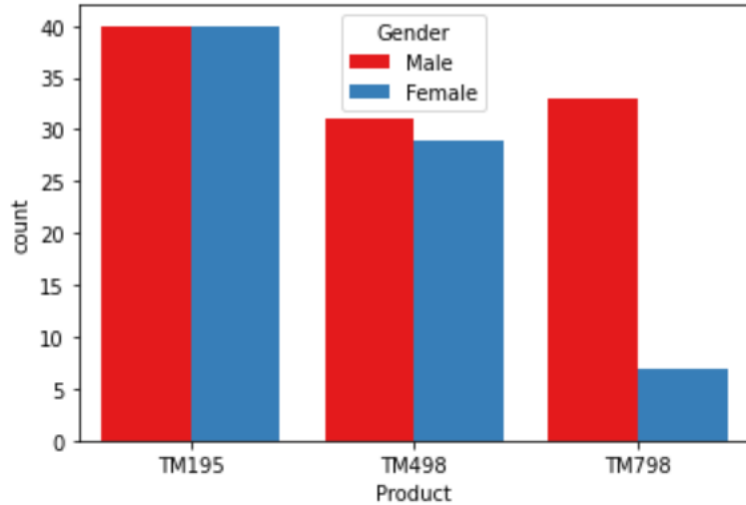
EDA – Usage across Income

- **Observation:**
- Higher the Income, higher the threadmill usage.
- Most of the Customers fall in the category where income is less than 60000 and their usage is between 2-4times/wk
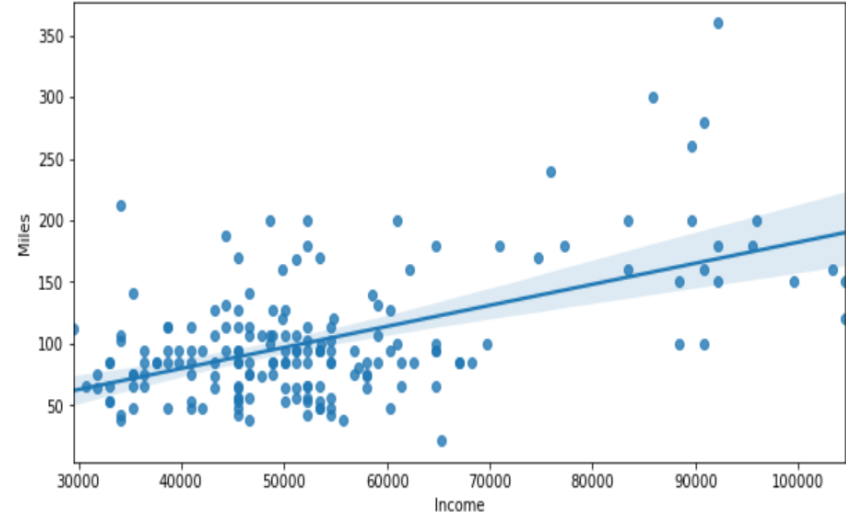
Observation
1. The lesser the income, number of miles expected to cover is less.

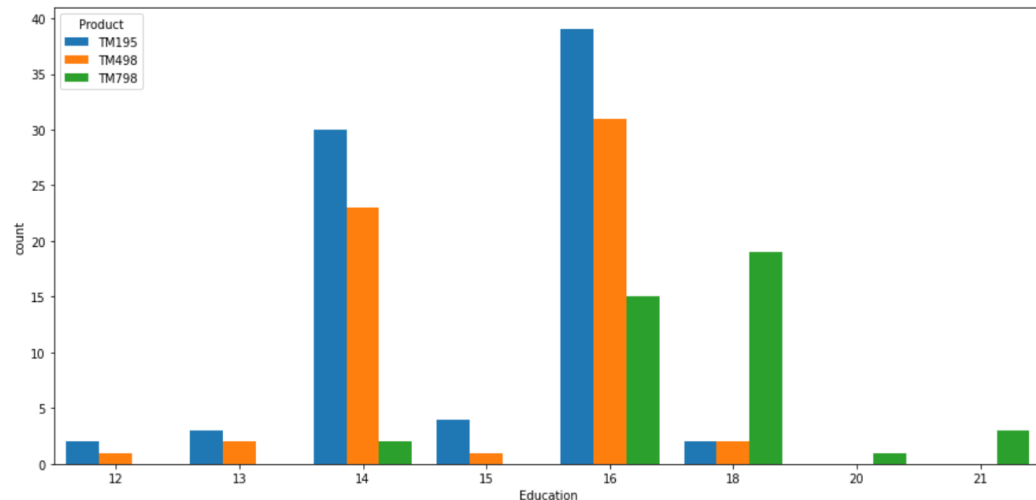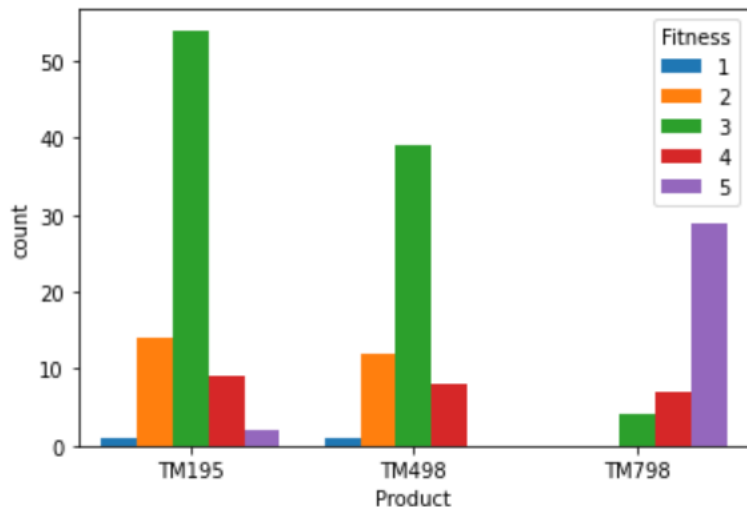# EDA – Product count by Gender, MaritalStatus

Observation

- Majority of Customers using Product TM798 are males.

Observation

- There are more partnered customers who use the equipment than single people.

EDA – Product count by Fitness, Education

Observation

- Customers with fitness level 5 mostly buy TM798 2.Customers with fitness level 3 mostly buy TM195

Observation

- Customers with more educational years use TM798
- Customers with less educational years use TM195
- Customers with educational years between (14-16 years) tend to use TM498 and TM 195

Correlation between Fitness, Miles and Gender /Product

Observation

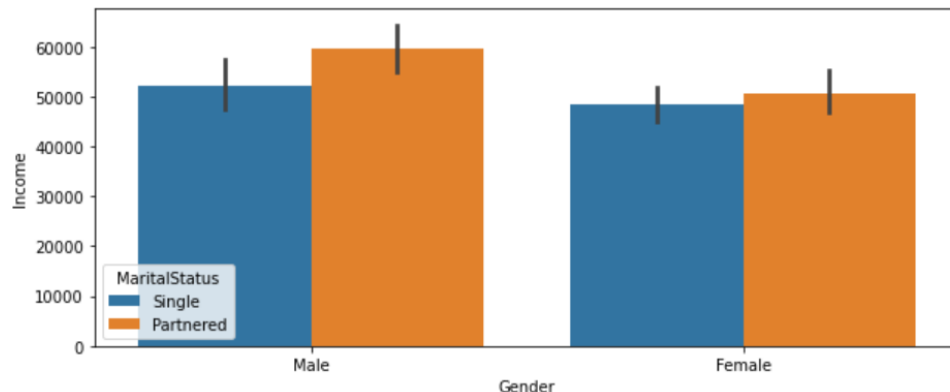● Female customers run less miles than Male customers.
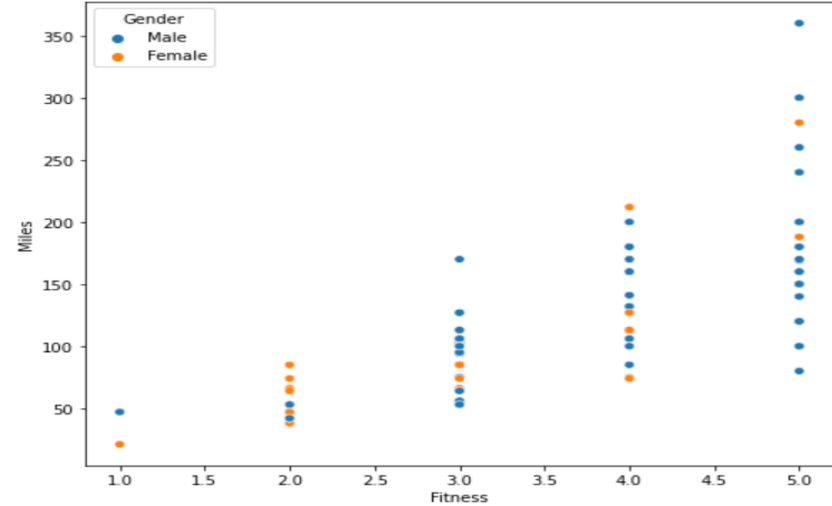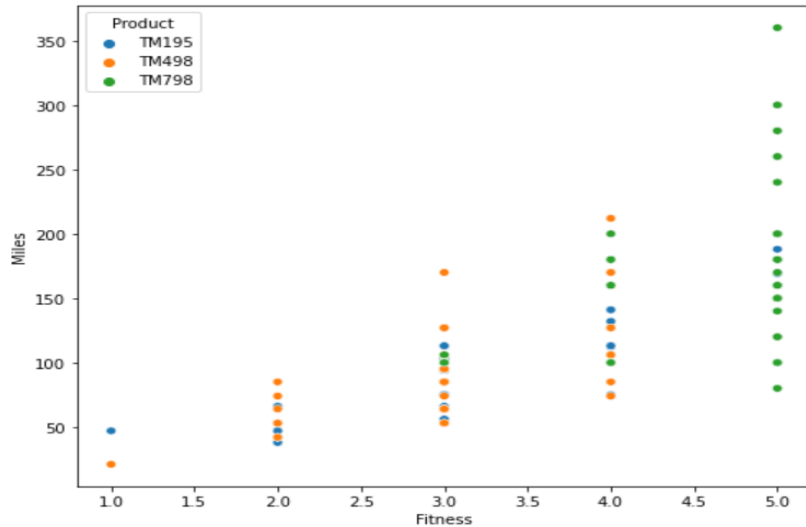
Observation

● Customers with high fitness rating use Product TM798

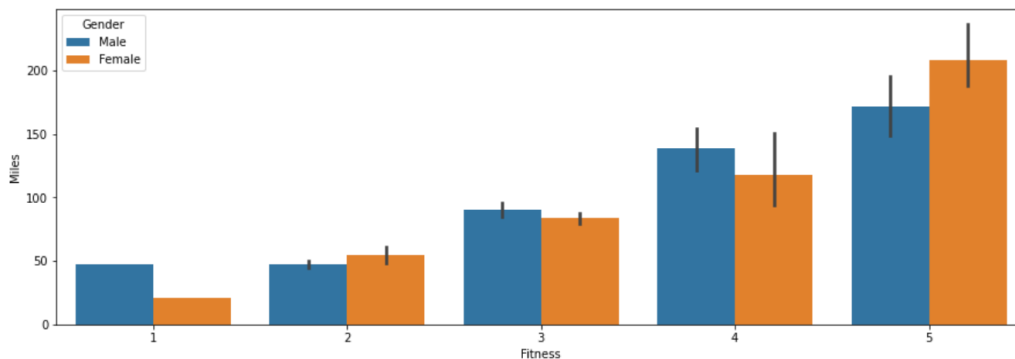# Correlation between Gender, Income and Marital Status

Observation

● Customers who are single earn more than Partnered. This is more seen in Male customers

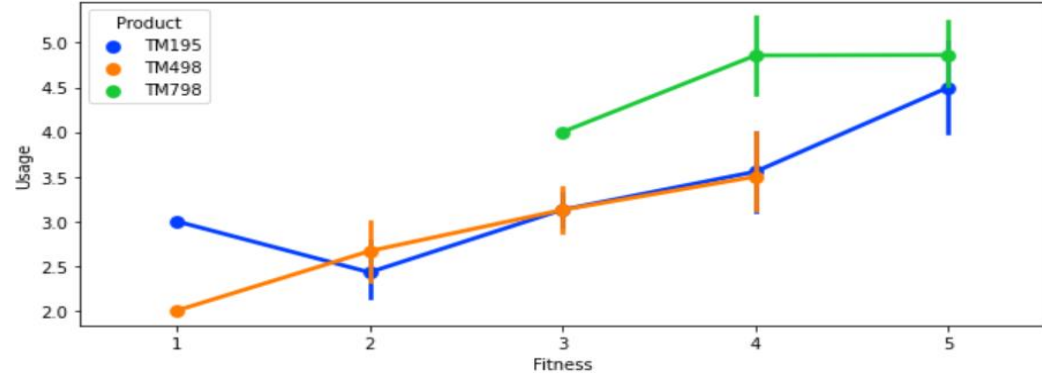# Correlation between fitness, miles and gender.

Observation

● Female customers who rate themselves high are expected to run more miles.

Correlation between fitness, usage and product.
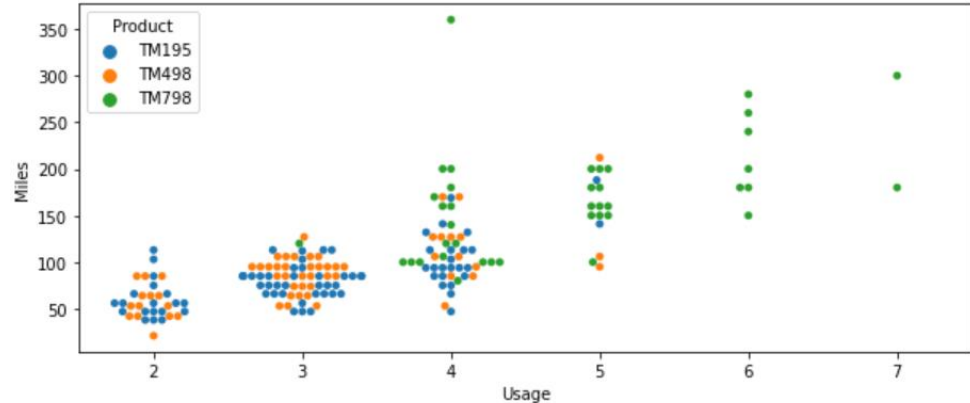
Observation

- Customers who rate themselves high prefer to use TM798
- Customers who rate themselves low prefer to use TM195

Correlation between Usage, Miles and Product
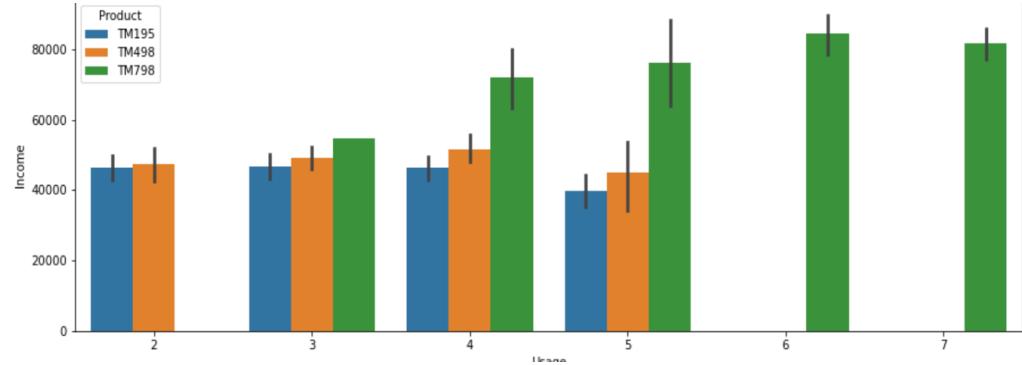
Observation

- Customers who use TM798 tend to run more miles
- Customers who use TM195 run less miles

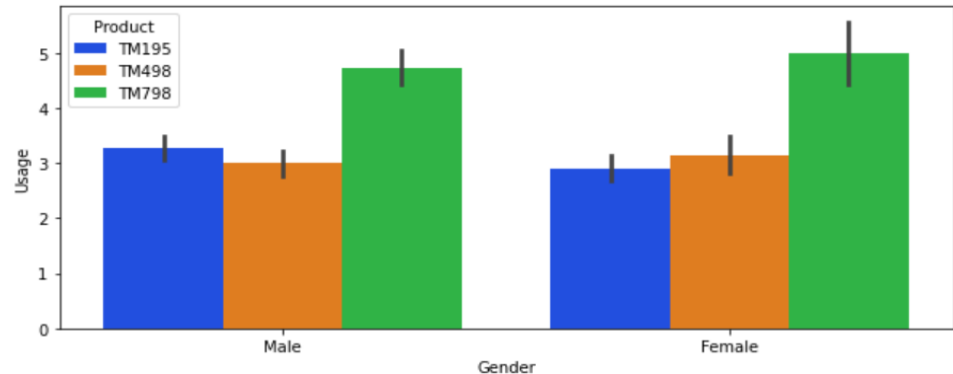# Correlation between Usage, Income and Product.

Observation

- Customers with higher income use TM798
- Customers with less income prefer to use TM498 and TM195

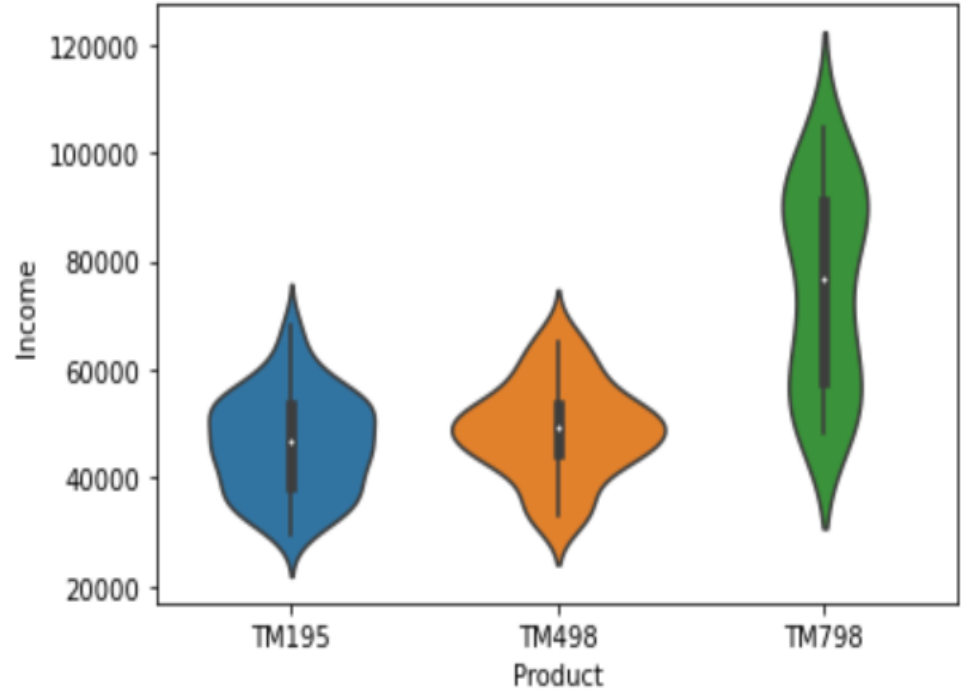# Correlation between Gender, usage and product

Observation

Customers(Both Male and Female) whose usage is high prefer to use TM798 and lesser usage prefer to use TM195 and TM498 respectively

Distribution of plot across each Product - violin plot

Observation

- Lower income customers prefer TM195,TM498 over TM798

Business Insights

TM 798	TM 498	TM 195
• Customers with higher income	• Customers with lower income,	• Customers with less fitness rating
• Fitness freaks who prefer to run more miles	• Medium usage	• Lesser miles
• Fitness rating is higher	• Less years of education.	• Lower Income

Recommendations

TM 798

- Make TM798 a premium product.

- Increase more features like inbuilt Tv, fitness monitor etc.

- Scope for increasing price and thus increase margins.

TM 498

- TM498 should be a mid range product.

- Keep price lower than premium but offer better features than TM195.

- Survey TM498 users to understand must have & nice to have features and introduce features accordingly.

TM 195

- Decrease cost of TM195 by using cheaper materials and using local manufacturing.

- Keep just basic features in this model.

- This should be marketed as entry point product for all fitness enthusiasts

- Introduce promotions / sales during major events.