Samsung Innovation Campus

Artificial Intelligence Course

Laptop price

prediction

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Enabling People
Education for Future Generations

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Concept

- Objective of project

- Overview of dataset

- Data processing

- Data visualization

- Feature selection

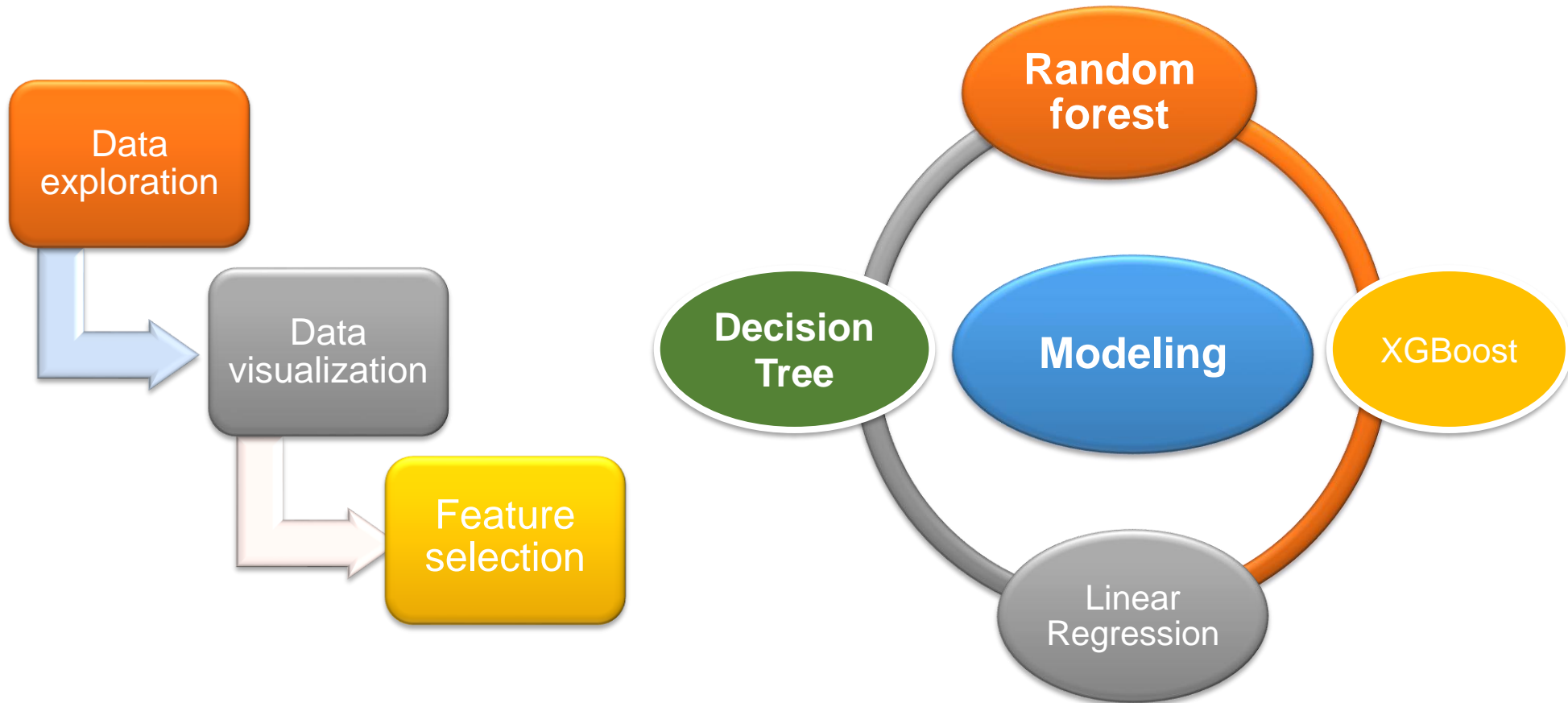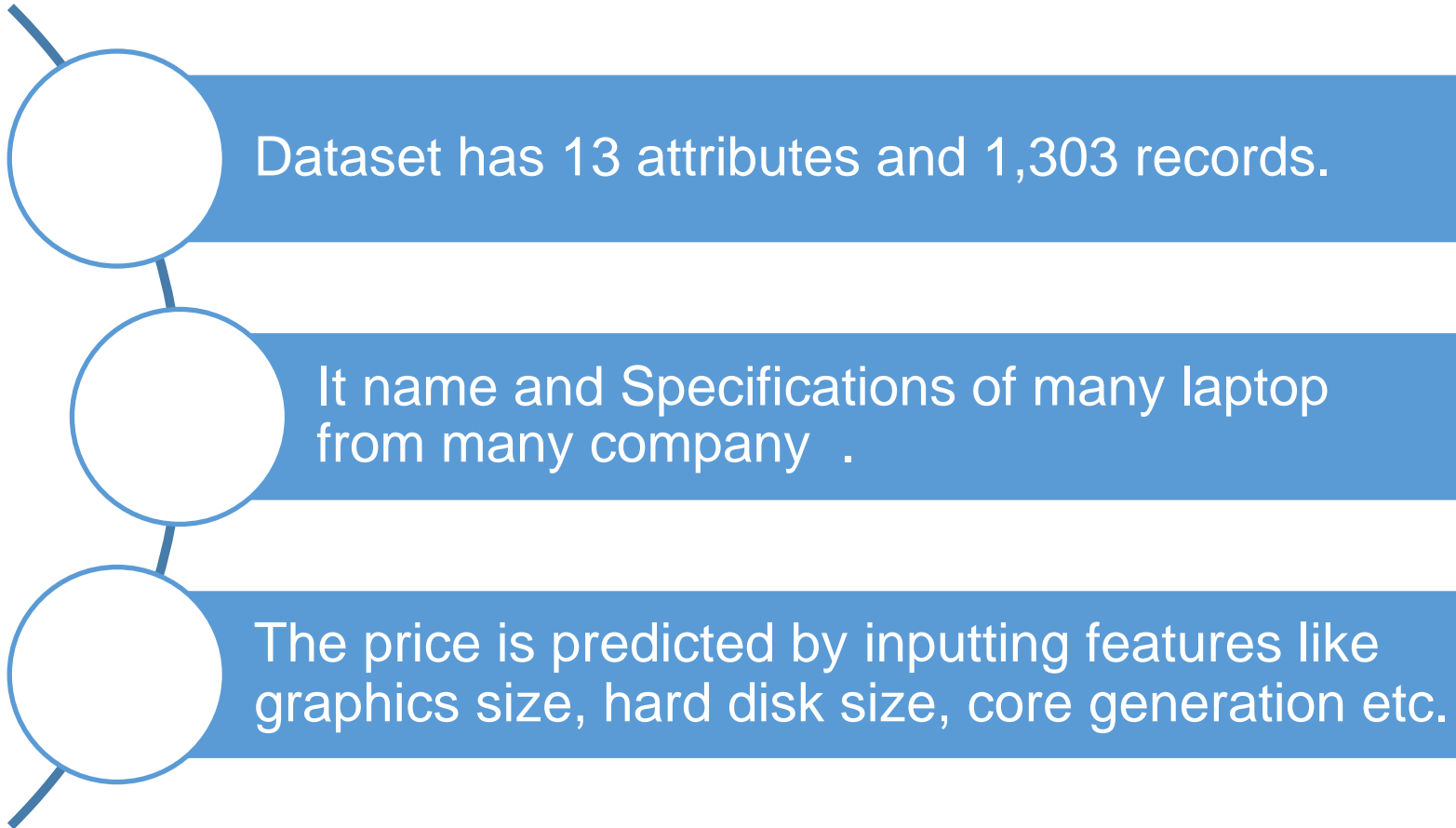- Modeling & Algorithm

- Business Recommendation

Objective

Analysis of this data will lead to identify the best laptop price and the target customers to achieve the maximum profit.
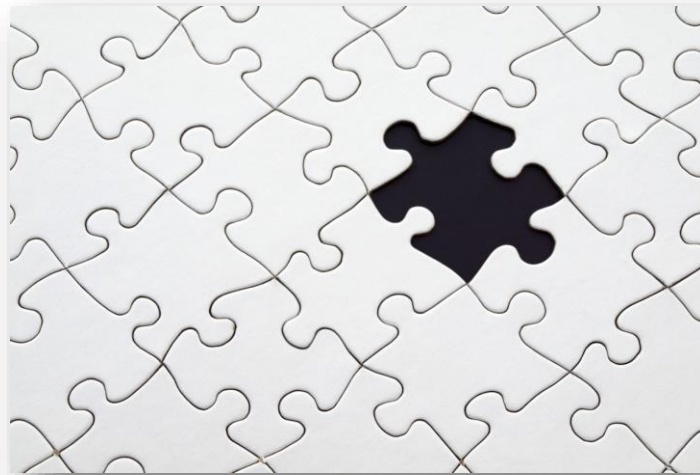
Data processing

Objective

Dataset has 13 attributes and 1,303 records.

It name and Specifications of many laptop from many company .

The price is predicted by inputting features like graphics size, hard disk size, core generation etc.

Data exploration
Checking missing value

- No missing values

- No duplicated data

Data visualization

Average laptop price

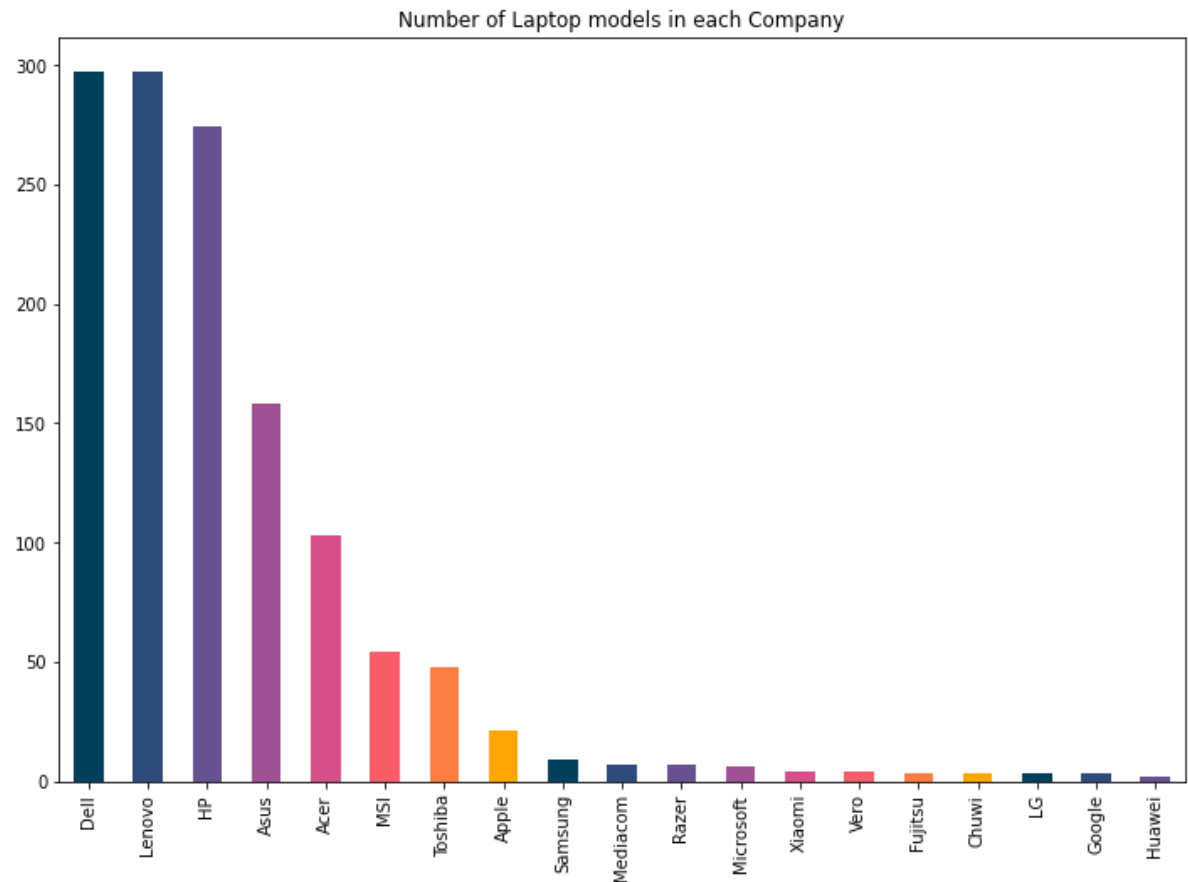- Most of the devices price in range
  200 : 2000 €

Frequency of prices
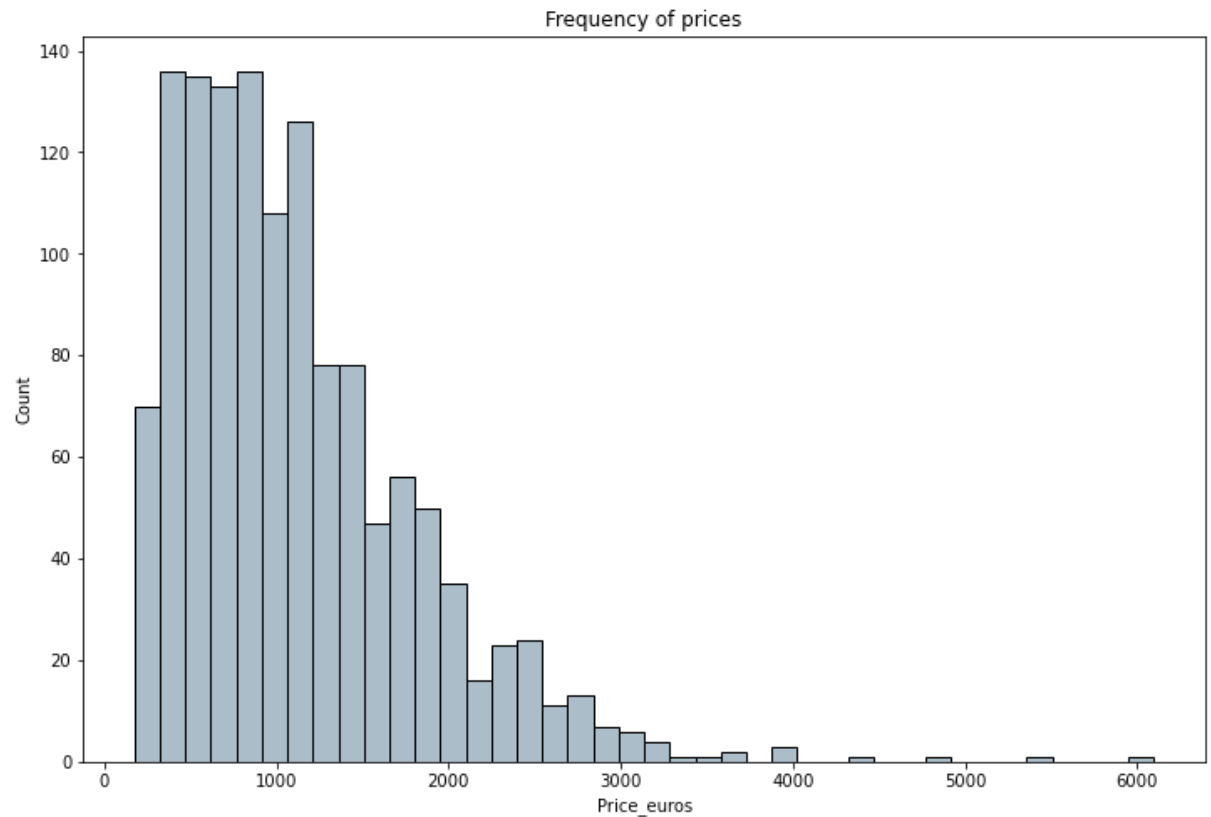
Data visualization

Number of laptops models

- lenovo and dell are the more preferable laptops followed by Hp.

Number of Laptop models in each Company

Data visualization

Types of laptops compared to the prices

- The gaming and Workstation laptops are the most expensive types of laptops .

Type to Price (€)
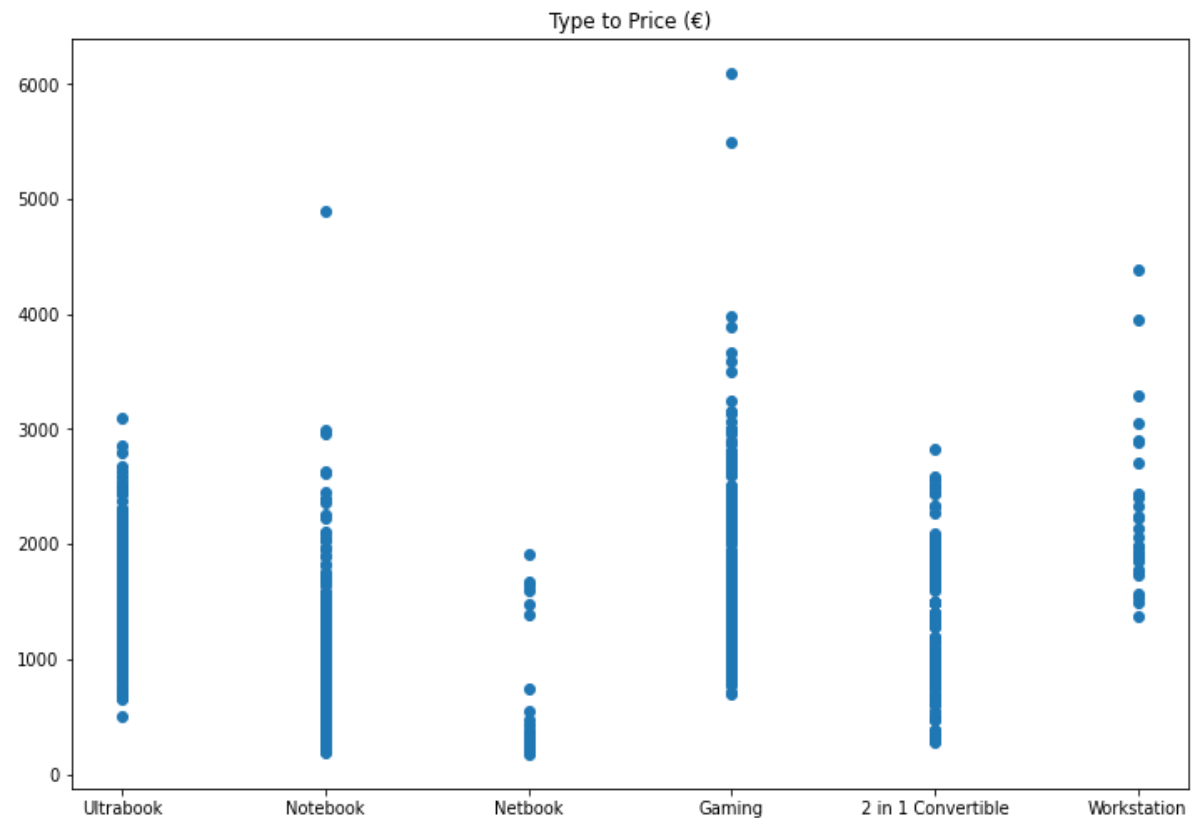
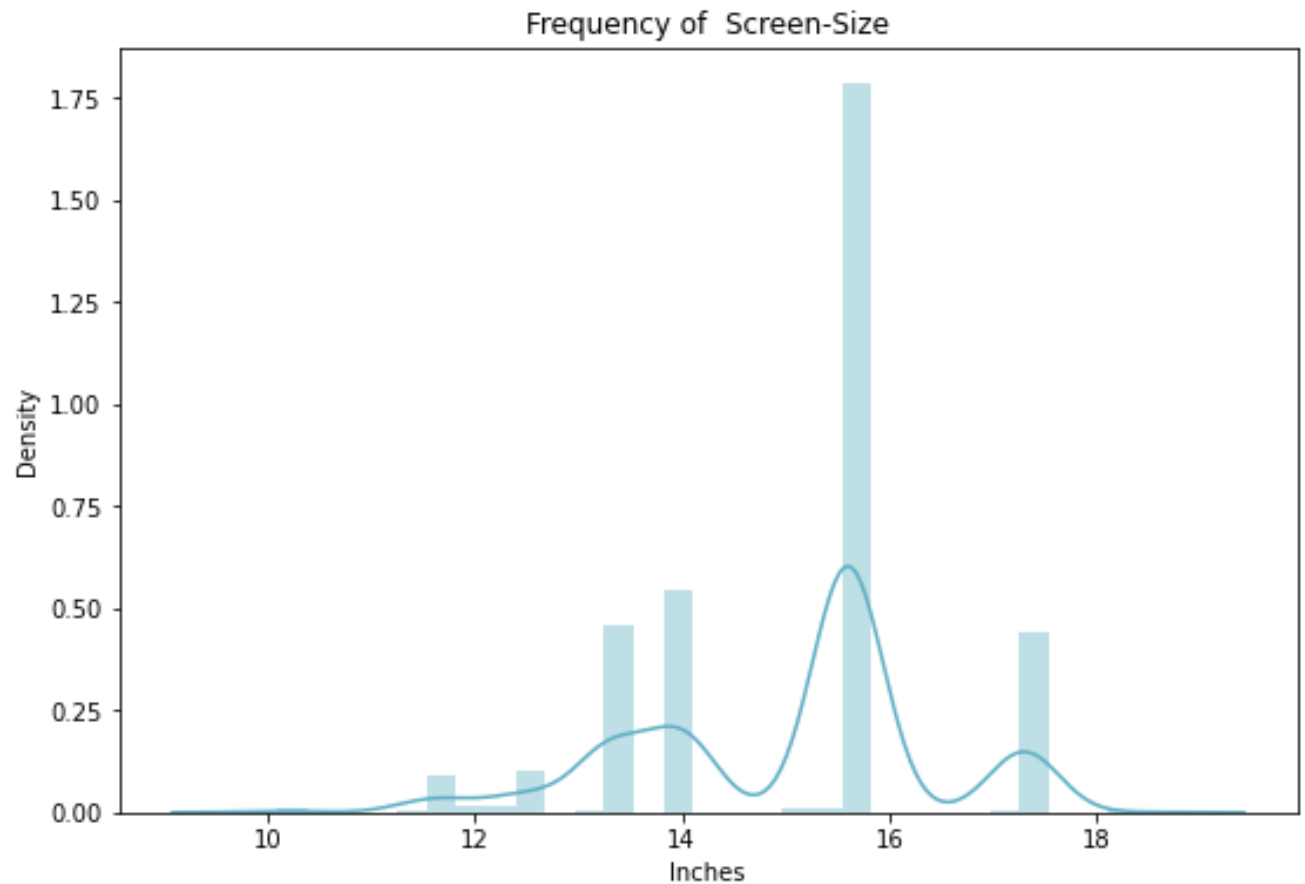# Data visualization

Types & Price

- Workstation is the most expensive type .
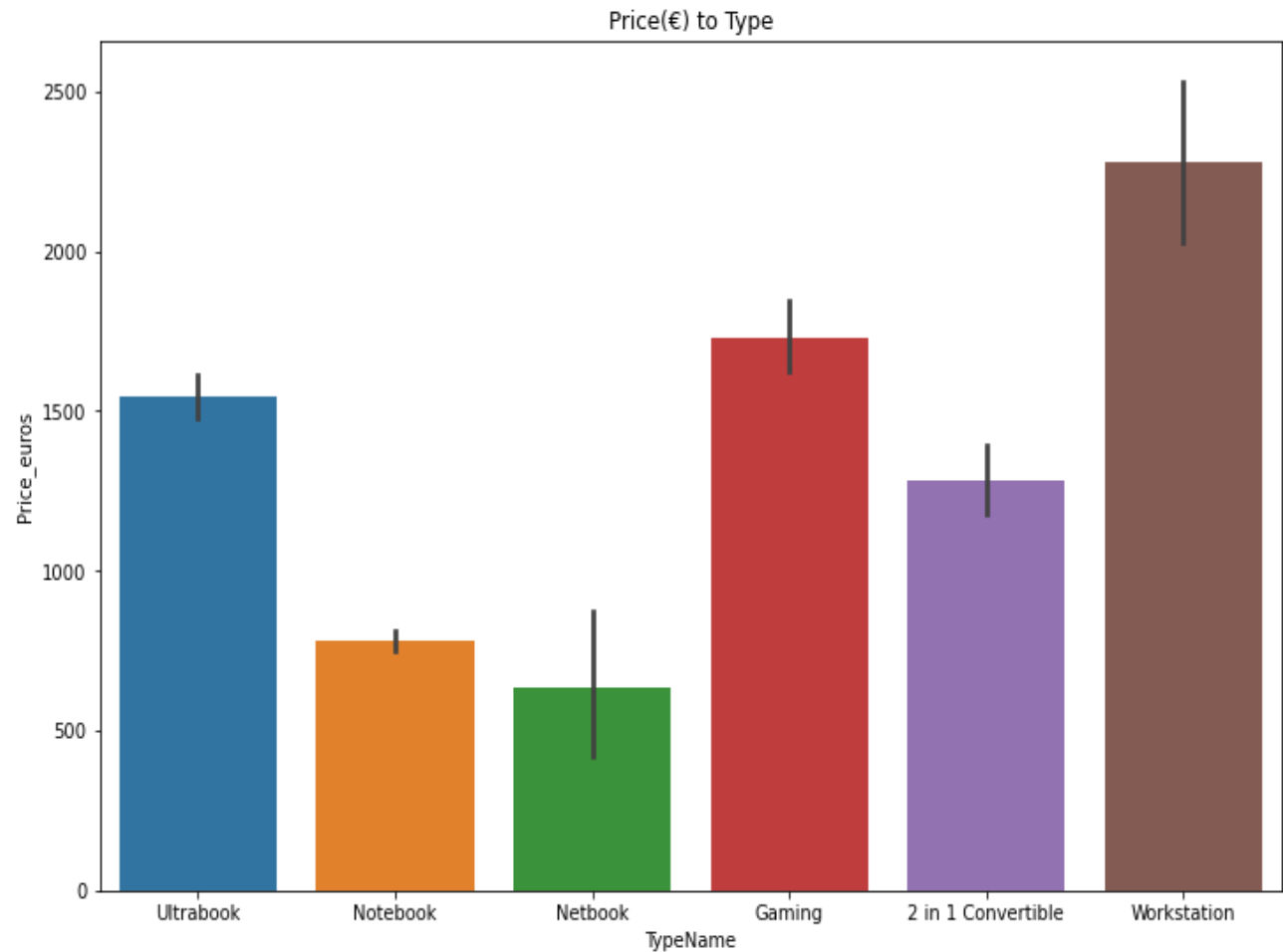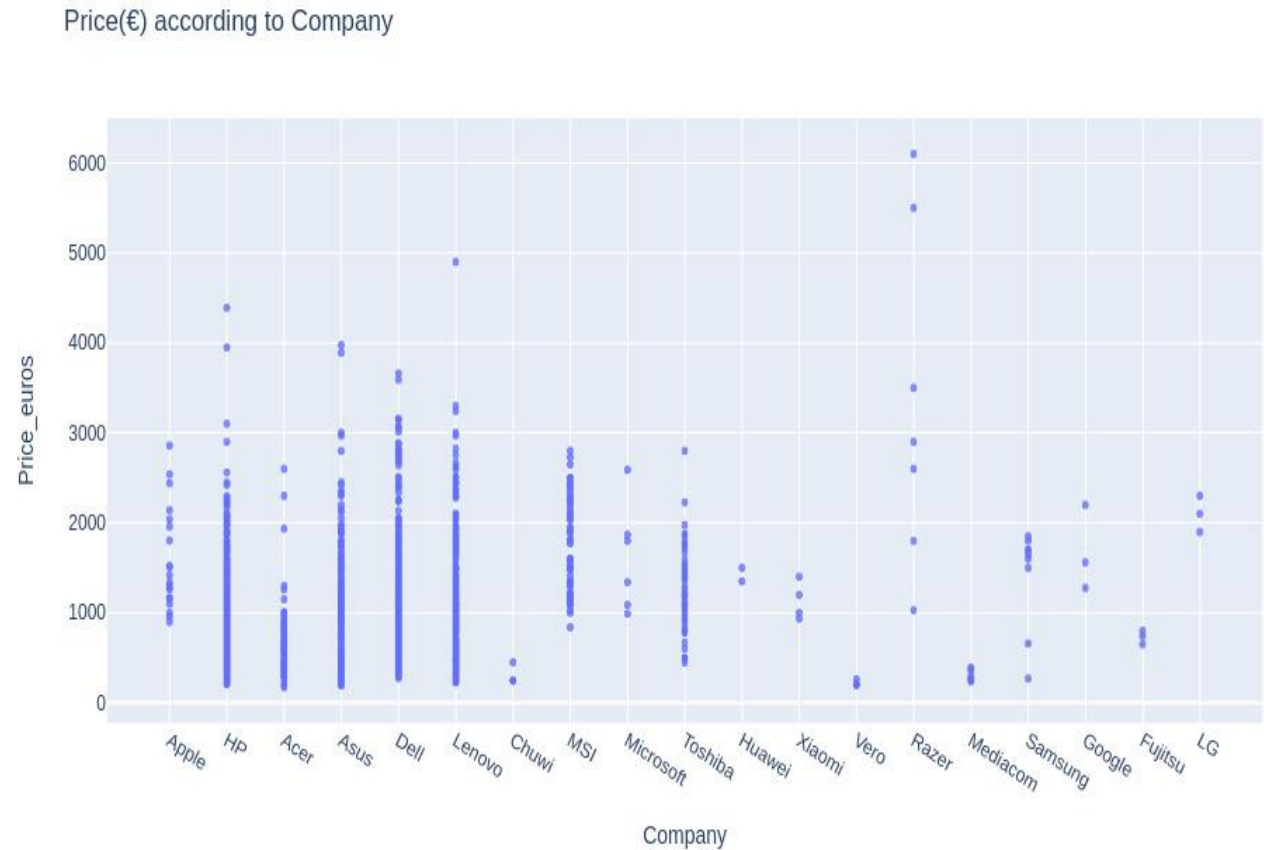
Data visualization

Types of screens

- The best density
  In 15.90 inches .

Frequency of Screen-Size

Data visualization

Companies

- Razer company have The highest prices in different ranges.

Price(€) according to Company

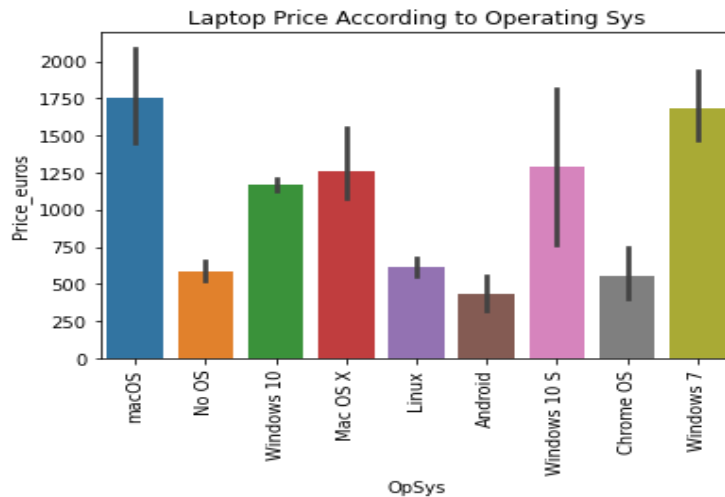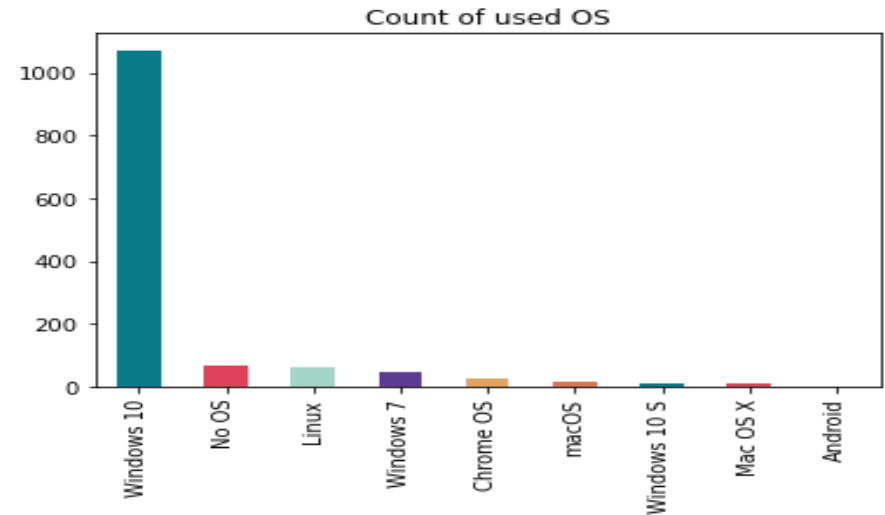# Data visualization

Touchscreen

- laptop which have Touchscreen more expensive than the other.

Data visualization

operating system

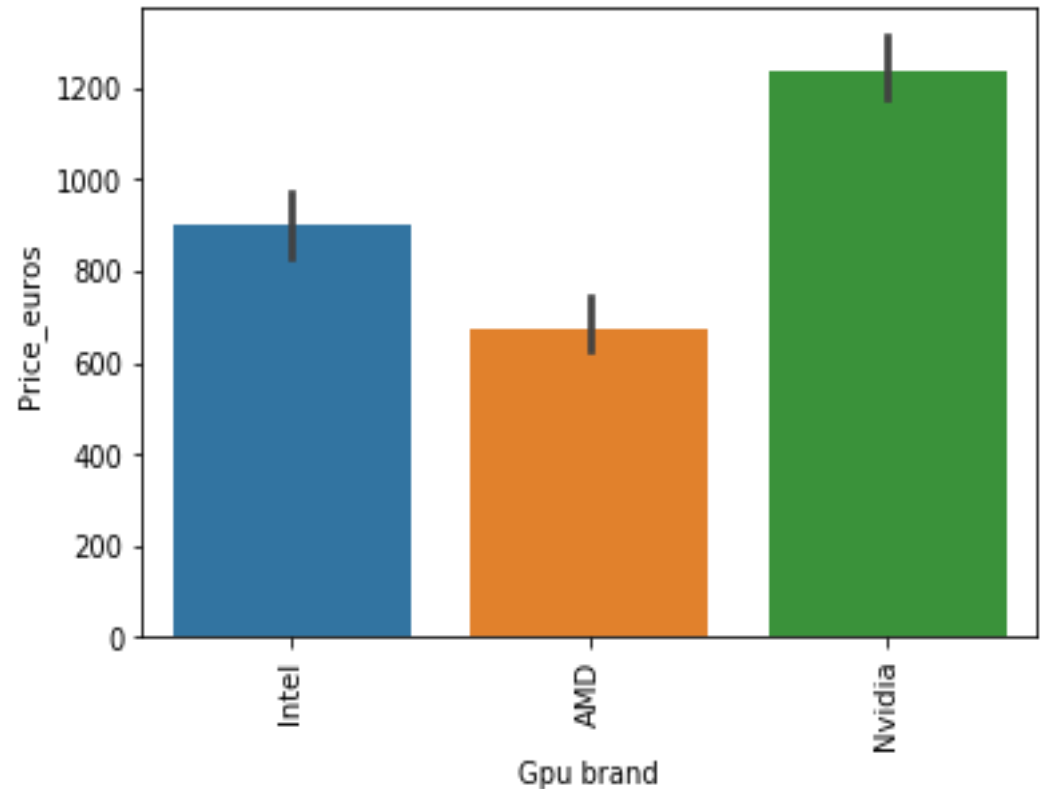- Most popular operating system is **Windows 10 .**

Count of used OS

Laptop Price According to Operating Sys

- **macOS** laptop is the most expensive one.
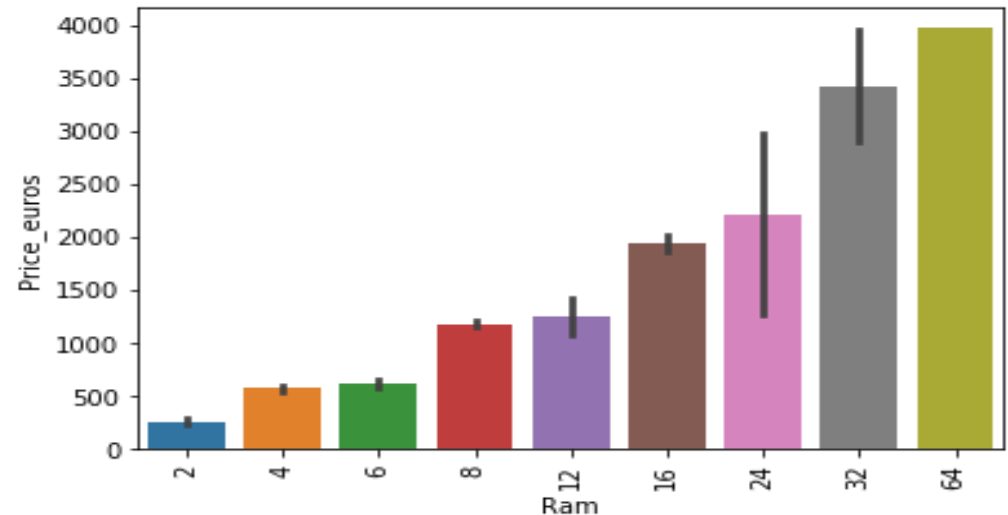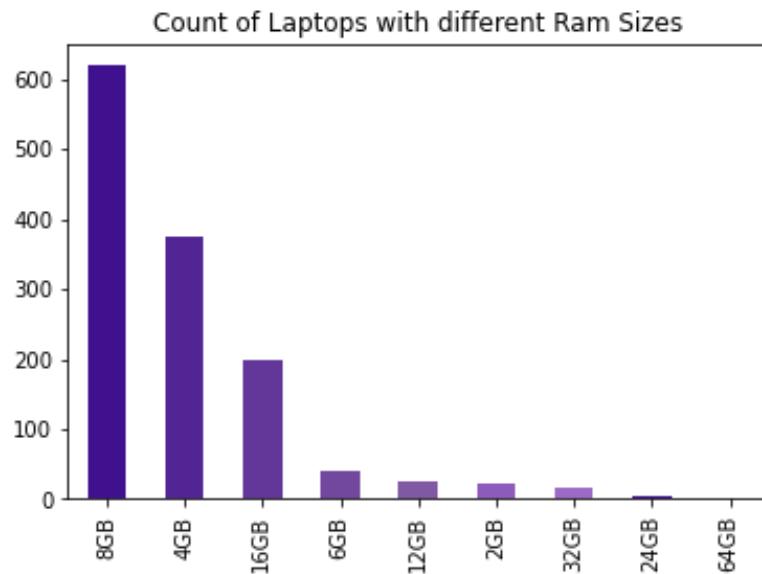
Data visualization

Graphics card

- **Nvidia** is high quality &
  high price .

Data visualization
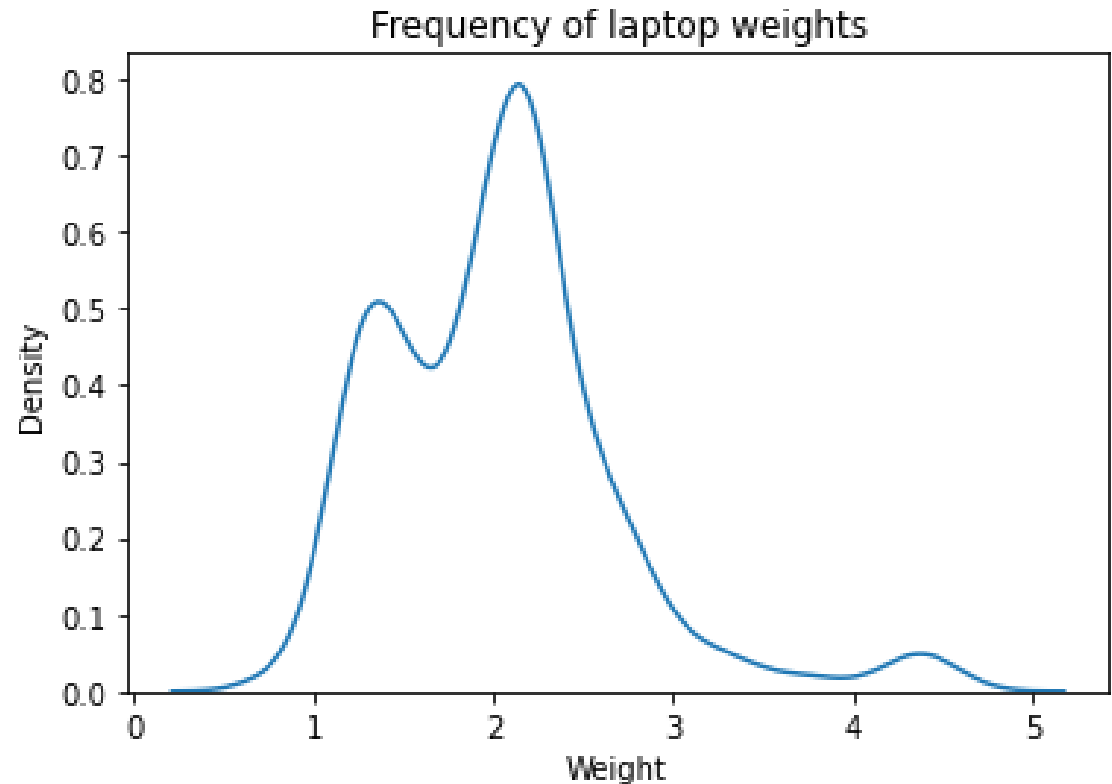
RAMs

- Ram which have more capacity is more expensive .

Count of Laptops with different Ram Sizes

- Most laptops come with 8 GB Ram.

Data visualization

Weight of laptops

- laptops which is less weight is best .

Frequency of laptop weights
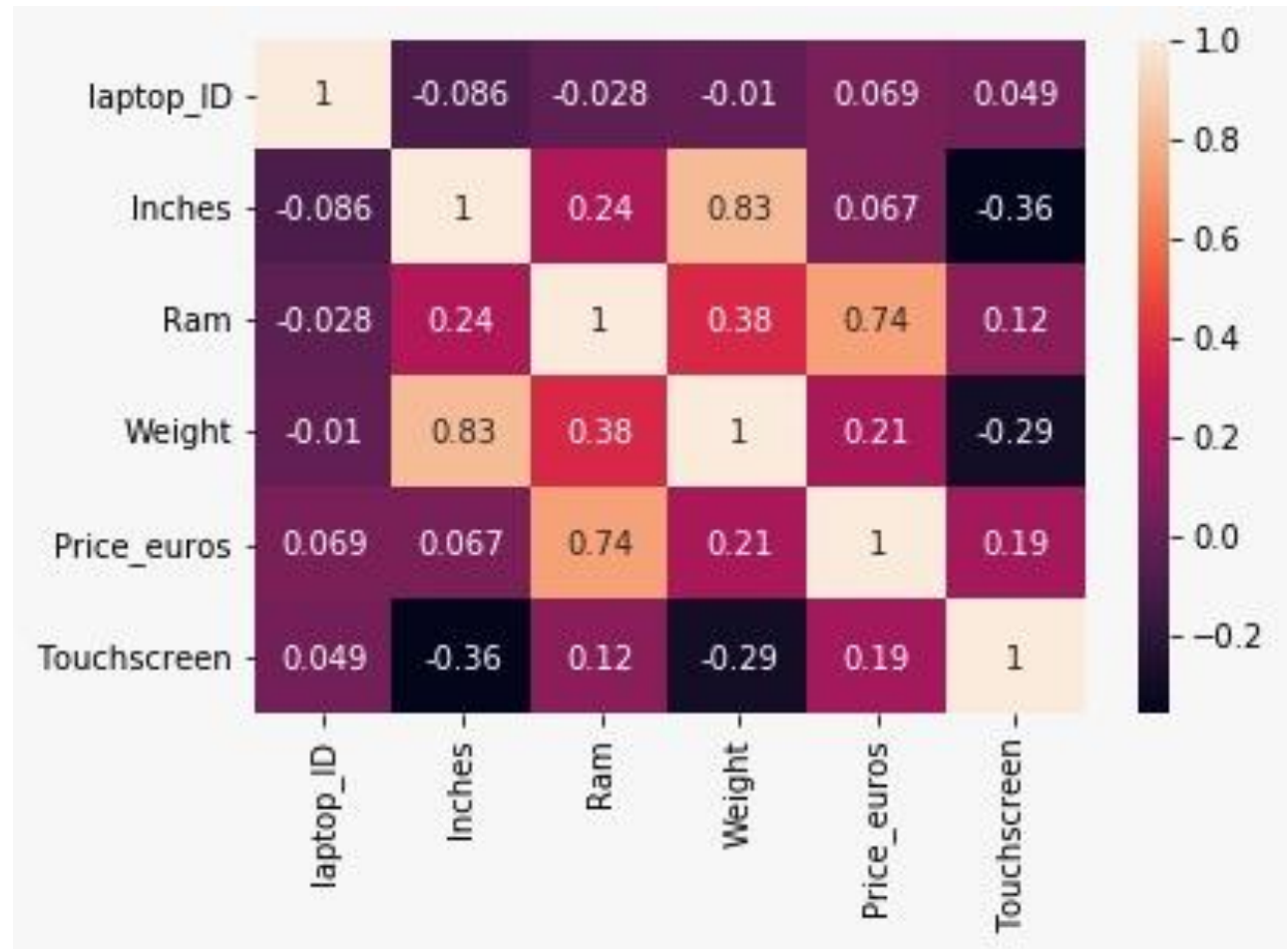
Data visualization

Inches

- The more inches, the higher the price

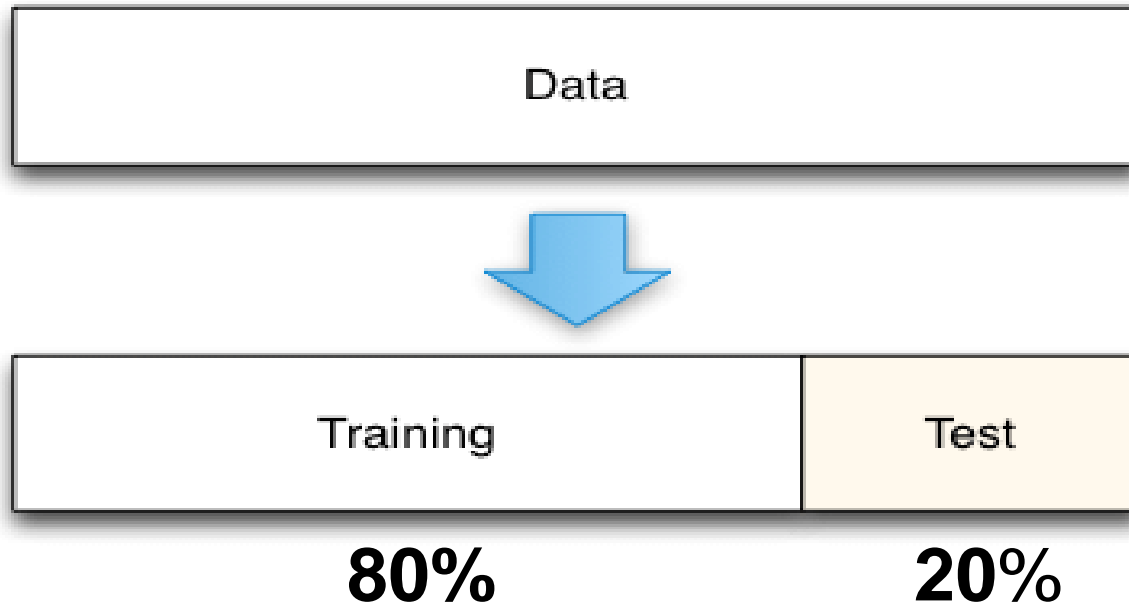Laptop Price According to Inches
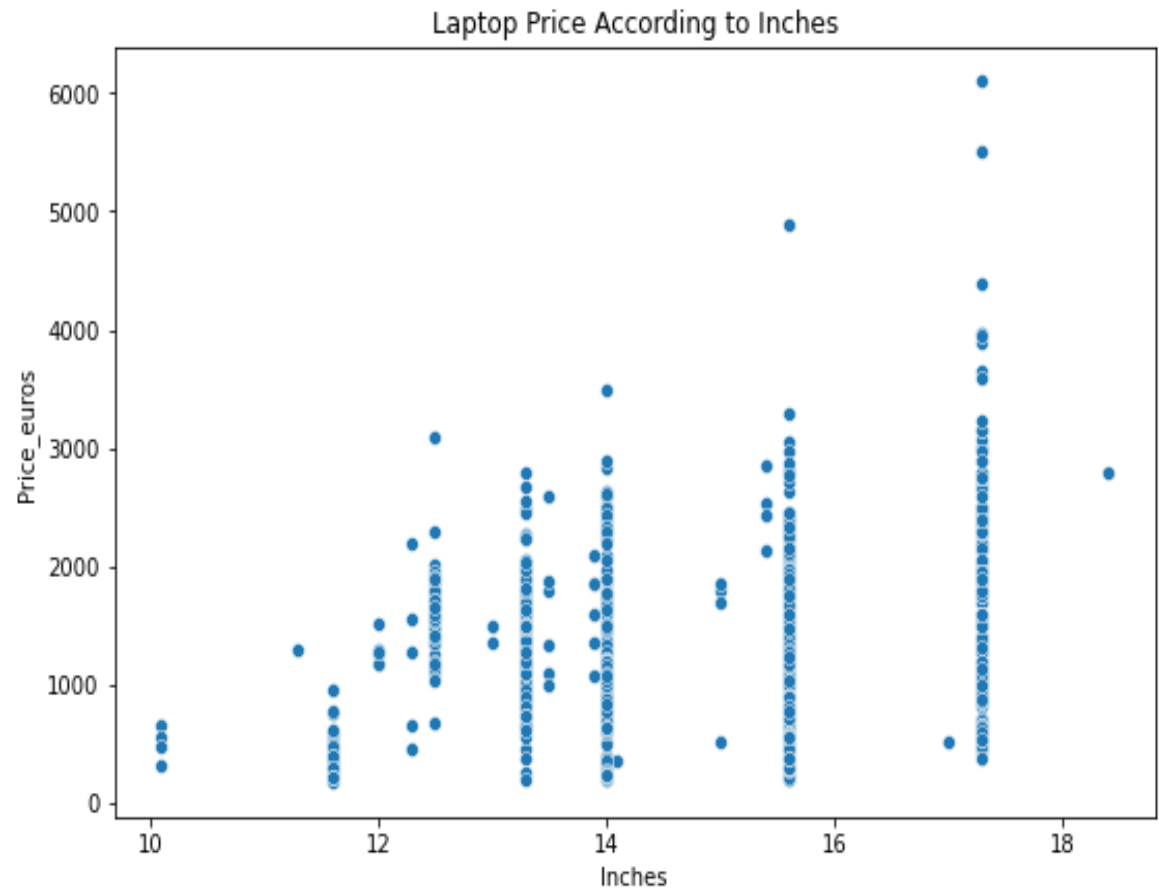
Data visualization

- Correlation

Modeling
Feature selection And modeling

- By using **all features** in training and ''**Price_euros**'' for prediction.

Modeling

Algorithm that used in this data

Random forest	• Training : 93.64 % • Testing : 89.88 %
Linear Regression	• training : 69.60 % • testing : 76 %
XGBoost	• training : 99 % • testing : 92 %
Decision Tree	• training : 82.43 % • testing : 82 %

Business Recommendation

- lenovo and dell are the more preferable laptop.

- laptops with **8 GB Ram** most popular.

- Laptops with **Windows 10** have good price and desired by most users**.**

- **2 Kg** Laptops are more acceptable.

- **Core i7** laptops are the most requested.

Project links

- [Kaggle](#)

- [GitHub](#)

Thanks

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