



# PREDICTION OF LAPTOP PRICE

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# AGENDA

- Description of data
- Dataset
- Data visualization
- Preprocessing
- Modeling

## QUESTIONS THAT OUR PRESENTATION WILL ANSWER:

- What is the range of the prices of the laptops?
- What is the prices of the laptops among companies?
- What is the types of laptops and their prices in euros?
- What is the processors types and their prices in euros?
- What is the Rams types and their prices in euros?

# DESCRIPTION OF DATA

*The data talks about several types of laptop computers and their manufacturers, components and prices. The following is a description of each column in the data:-*

- 1 Company- String -Laptop Manufacturer*
- 2 Product -String -Brand and Model*
- 3 TypeName -String -Type (Notebook, Ultrabook, Gaming, etc.)*
- 4 Inches -Numeric- Screen Size*
- 5 ScreenResolution -String- Screen Resolution*
- 6 CPU- String -Central Processing Unit (CPU)*
- 7 Ram -String- Laptop RAM*
- 8 Memory -String- Hard Disk / SSD Memory*
- 9 GPU -String- Graphics Processing Units (GPU)*
- 10 OpSys -String- Operating System*
- 11 Weight -String- Laptop Weight*
- 12 Price-euros -Numeric- Price (Euro)*



# DATASET

- Data has 1 column(int64), 2column(float64),10(object)
- Shape of data (1303, 13)
- Not found null data

| #  | Column           | Non-Null Count | Dtype   |
|----|------------------|----------------|---------|
| 0  | laptop_ID        | 1303 non-null  | int64   |
| 1  | Company          | 1303 non-null  | object  |
| 2  | Product          | 1303 non-null  | object  |
| 3  | TypeName         | 1303 non-null  | object  |
| 4  | Inches           | 1303 non-null  | float64 |
| 5  | ScreenResolution | 1303 non-null  | object  |
| 6  | Cpu              | 1303 non-null  | object  |
| 7  | Ram              | 1303 non-null  | object  |
| 8  | Memory           | 1303 non-null  | object  |
| 9  | Gpu              | 1303 non-null  | object  |
| 10 | OpSys            | 1303 non-null  | object  |
| 11 | Weight           | 1303 non-null  | object  |
| 12 | Price_euros      | 1303 non-null  | float64 |

dtypes: float64(2), int64(1), object(10)

```
#Miss values  
df.isnull().sum()
```

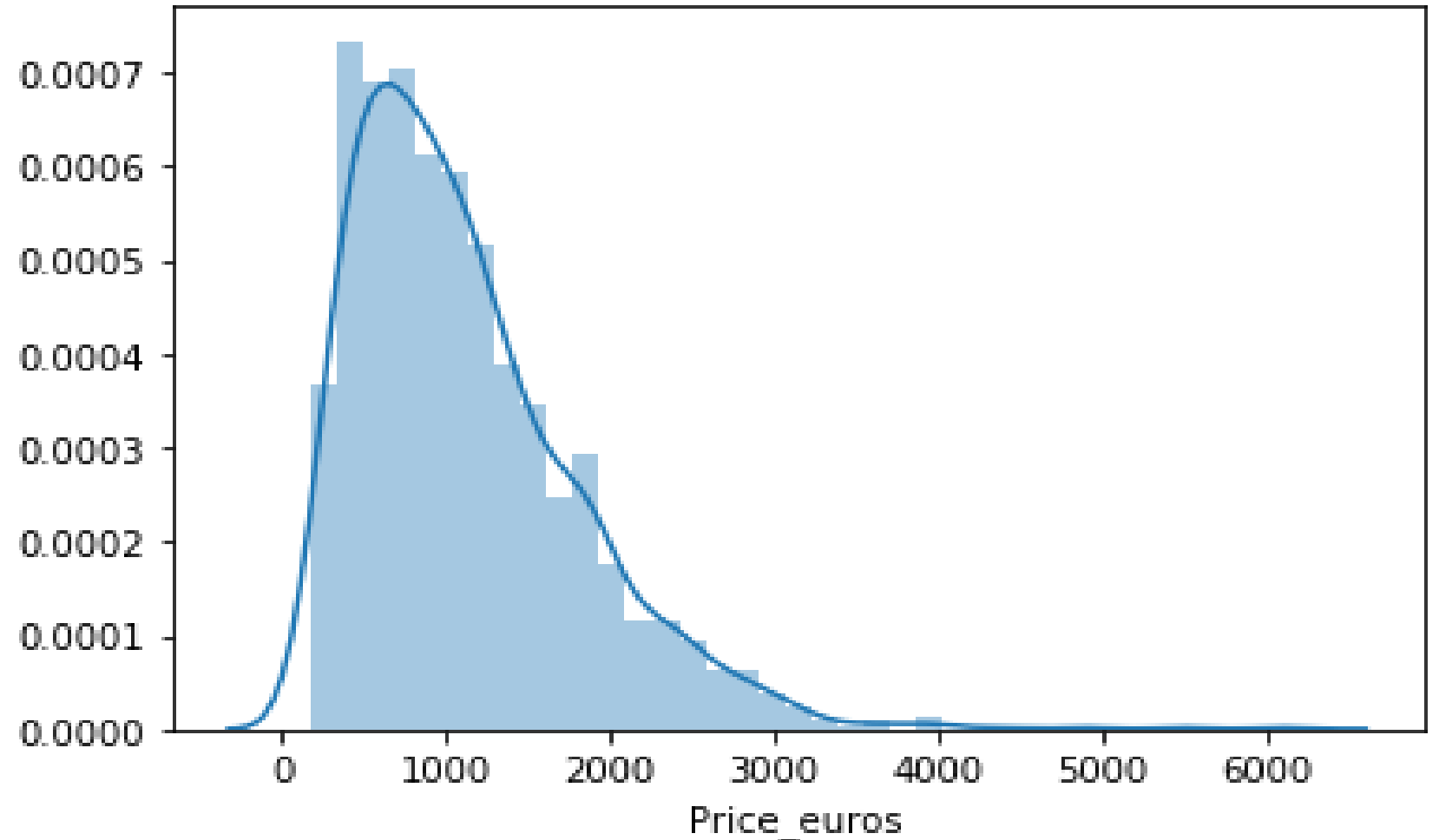
|                  |       |
|------------------|-------|
| laptop_ID        | 0     |
| Company          | 0     |
| Product          | 0     |
| TypeName         | 0     |
| Inches           | 0     |
| ScreenResolution | 0     |
| Cpu              | 0     |
| Ram              | 0     |
| Memory           | 0     |
| Gpu              | 0     |
| OpSys            | 0     |
| Weight           | 0     |
| Price_euros      | 0     |
| dtype:           | int64 |

# DATA VISUALIZATION

## PRICE-EUROS

WHAT ARE THE PREVAILING PRICES?

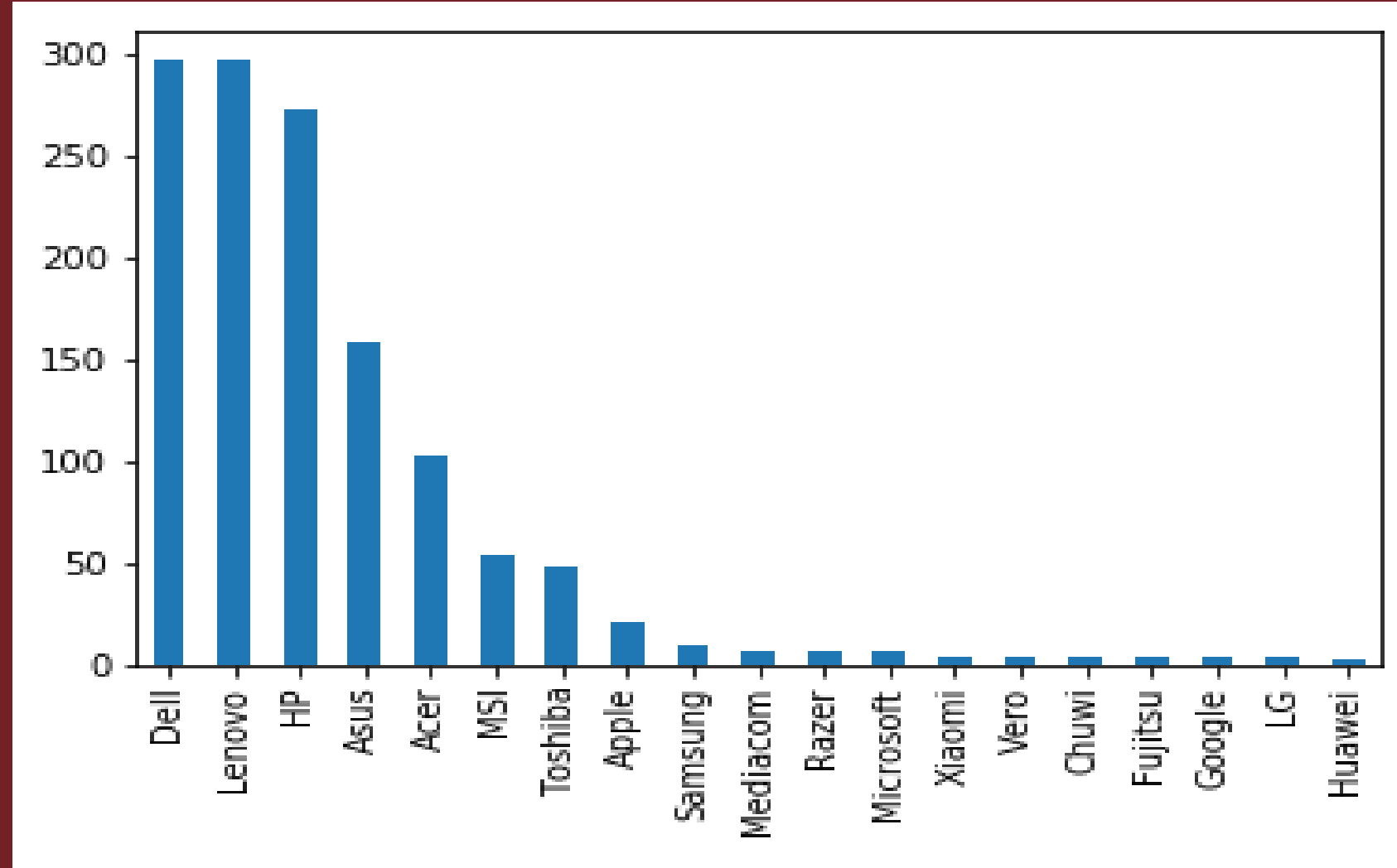
PRICES BETWEEN  
500 AND 1500 ARE  
THE PREVAILING ONES,  
WHICH ARE THE  
LOW PRICES.



# COMPANY

What are the best-selling companies in the market?

Dell, Lenovo and HP are the ones who dominate the market.

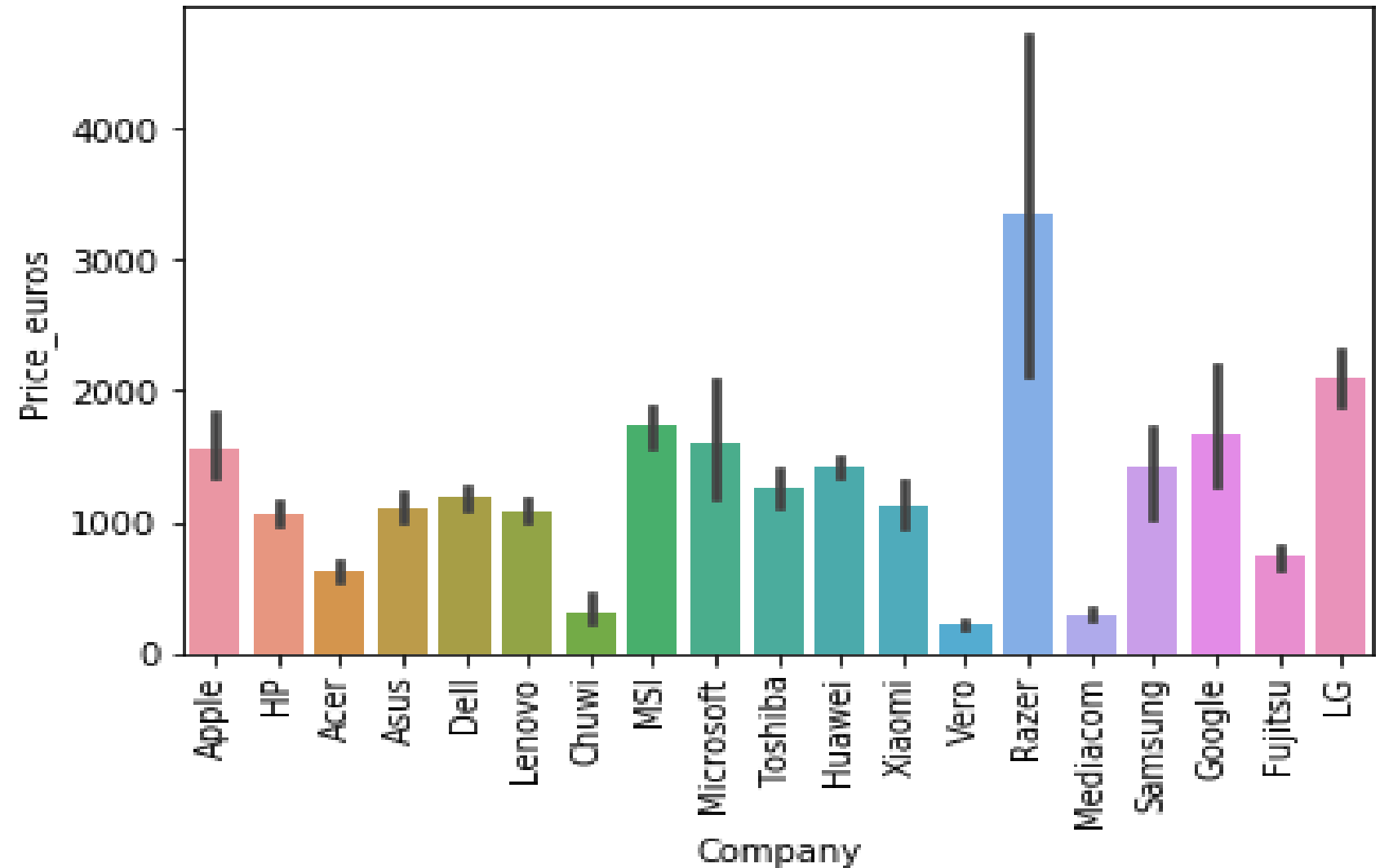




# PRICE-EUROS & COMPANY

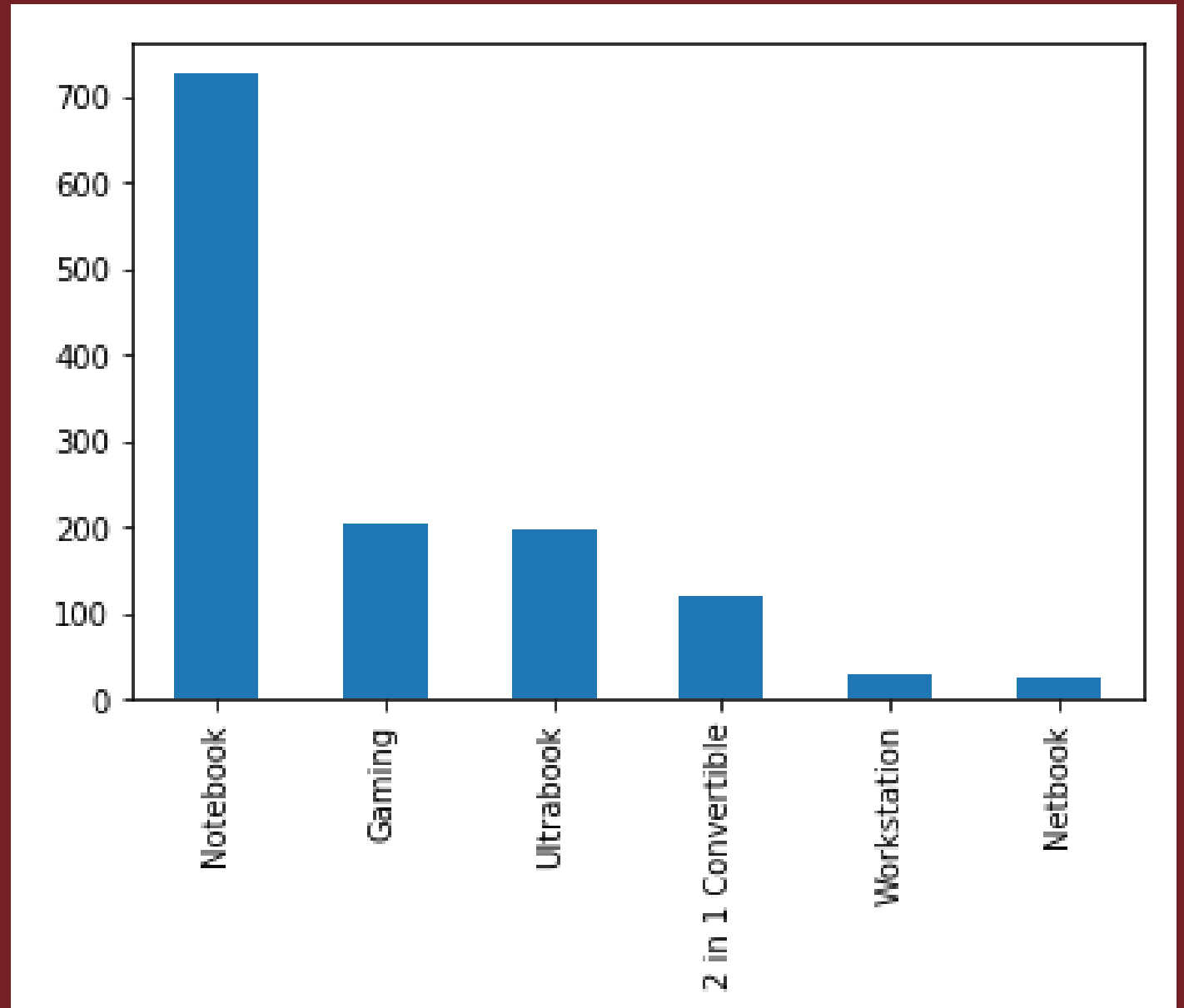
What is the company that owns the most expensive equipment?

Razer company



## TYPE-NAME

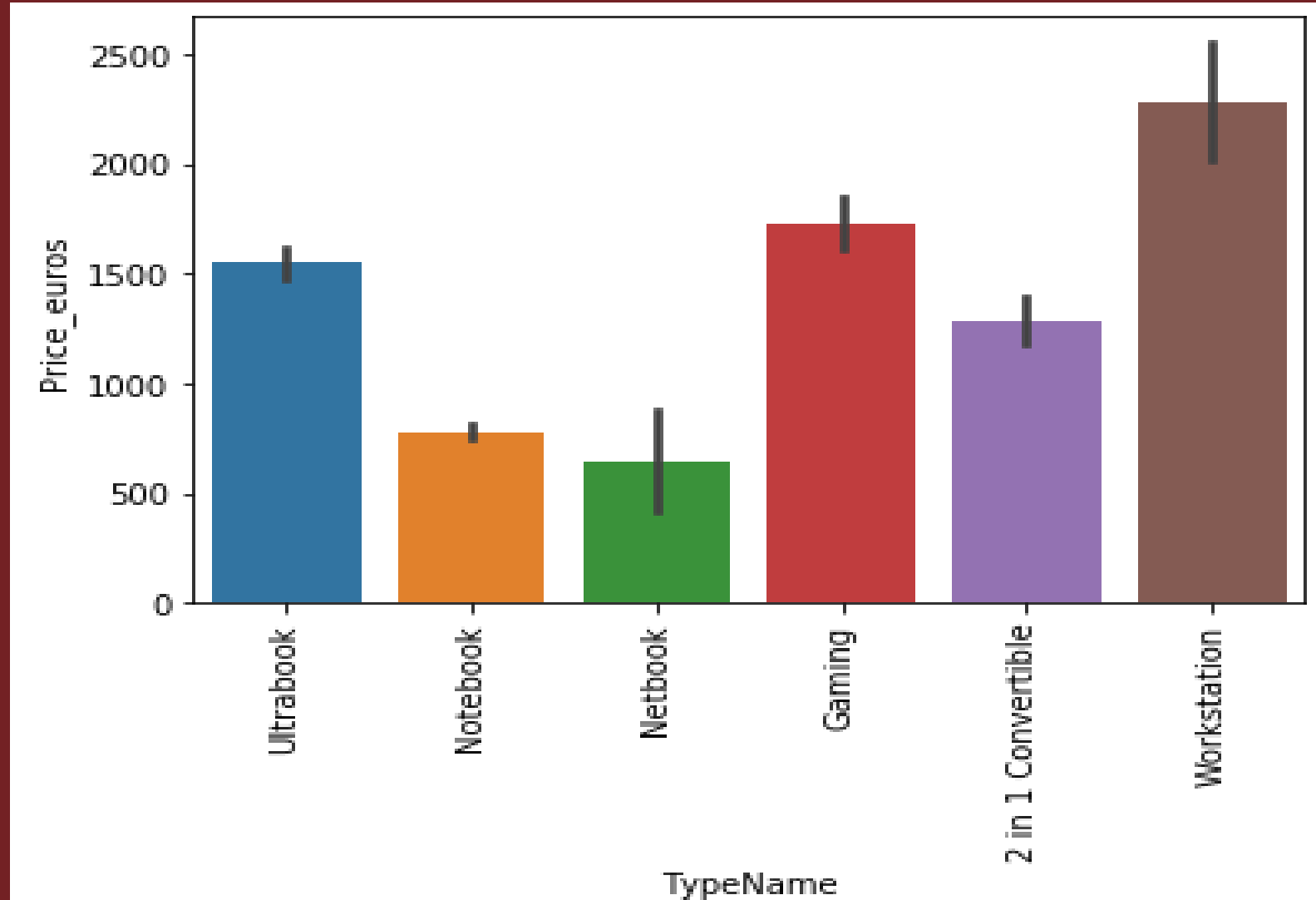
- From this figure, we conclude that students are the most buying laptops.



# PRICE-EUROS & TYPE-NAME

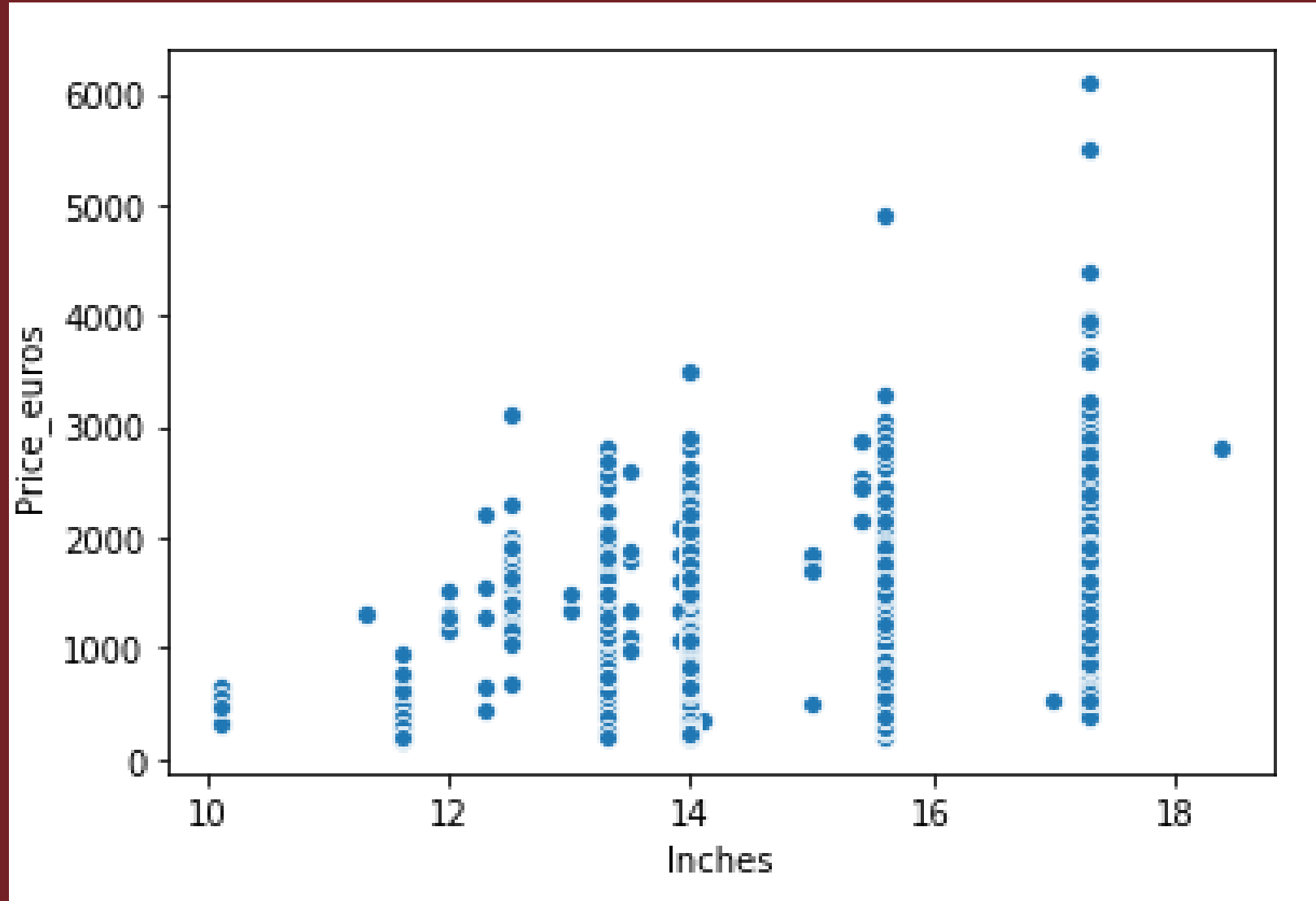
What is the Type that owns the most expensive equipment?

Workstation TypeName



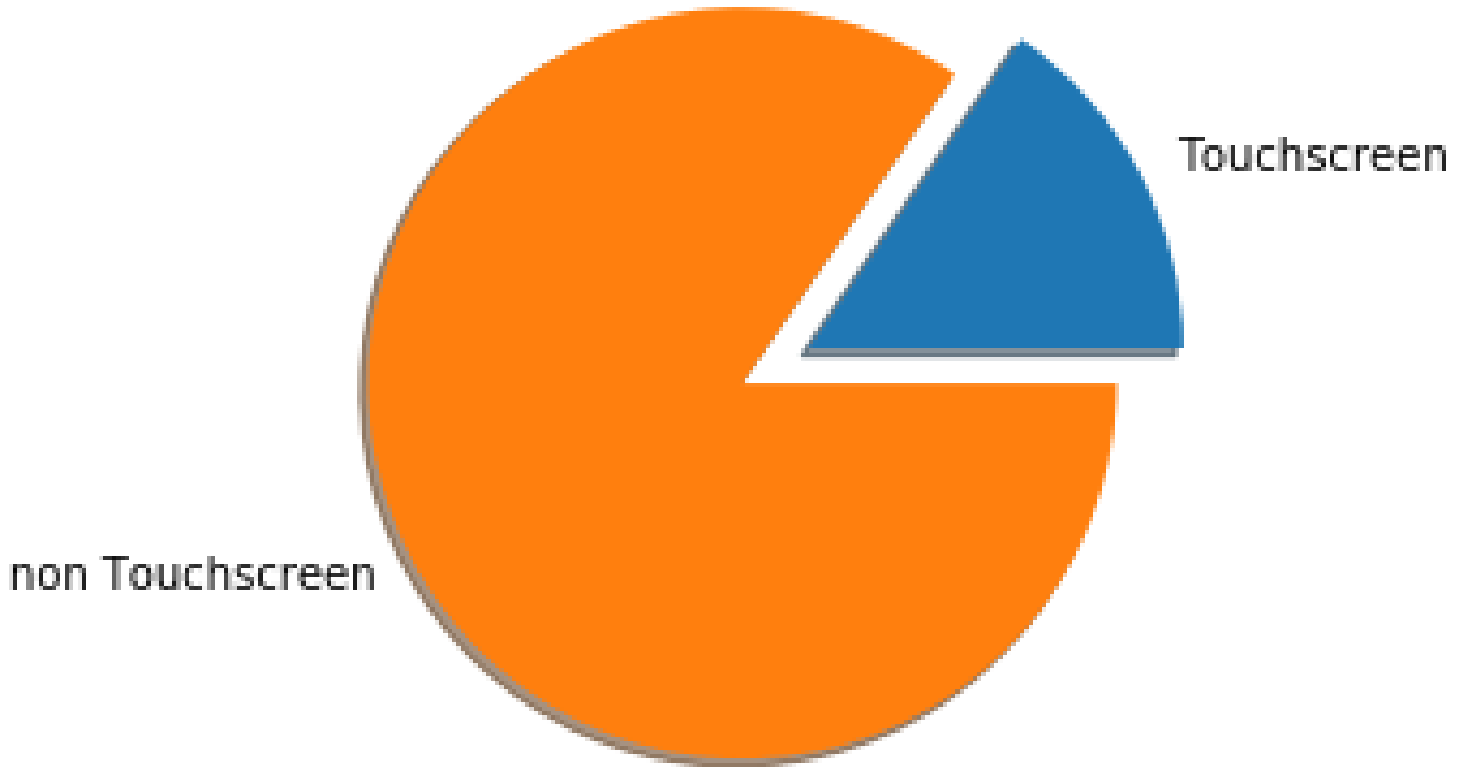
# PRICE-EUROS & INCHES

There is a direct relationship between the inches and the price.



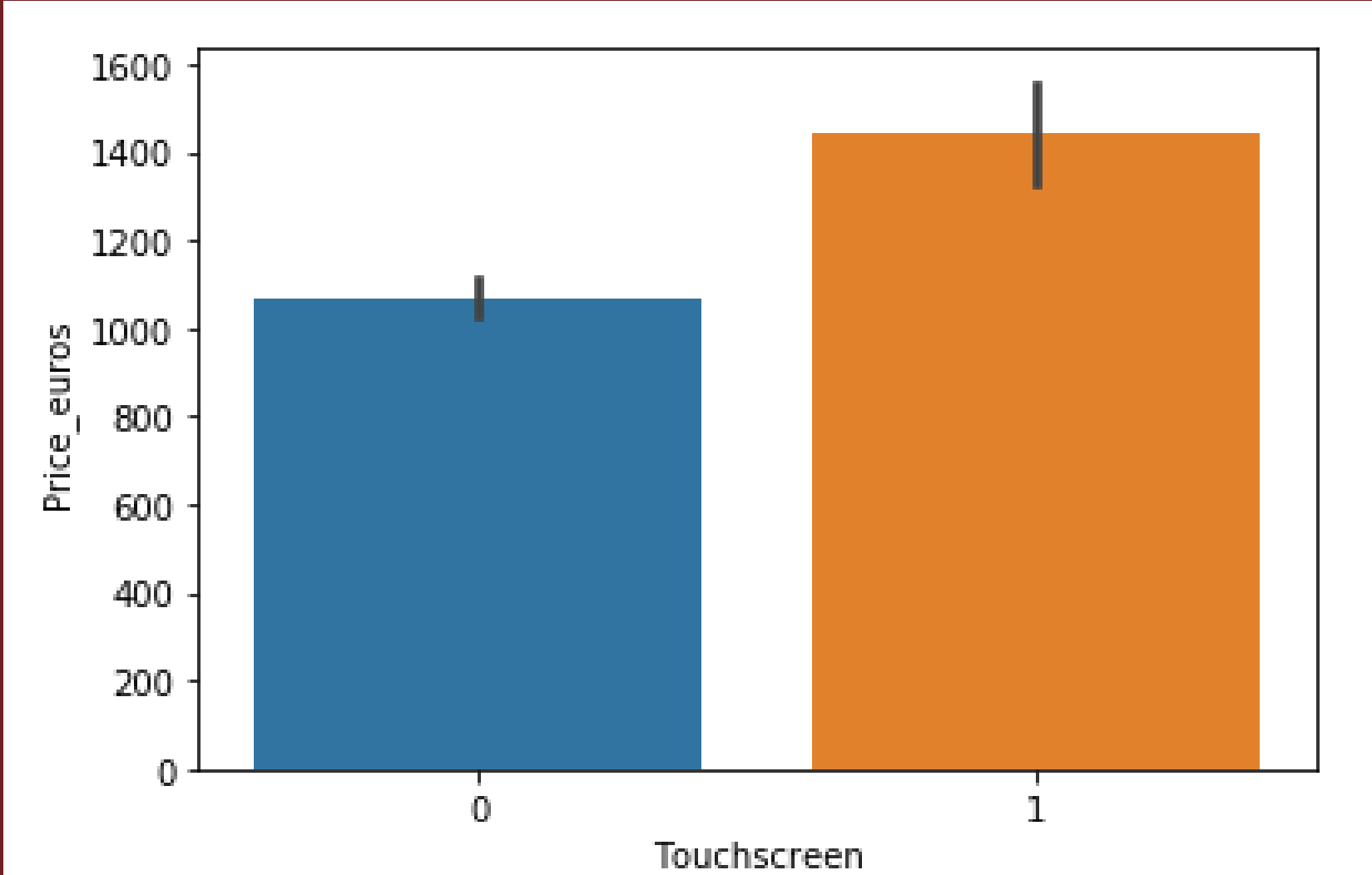
# TYPE OF SCREEN

Touch screen ratio ie  
other screens.



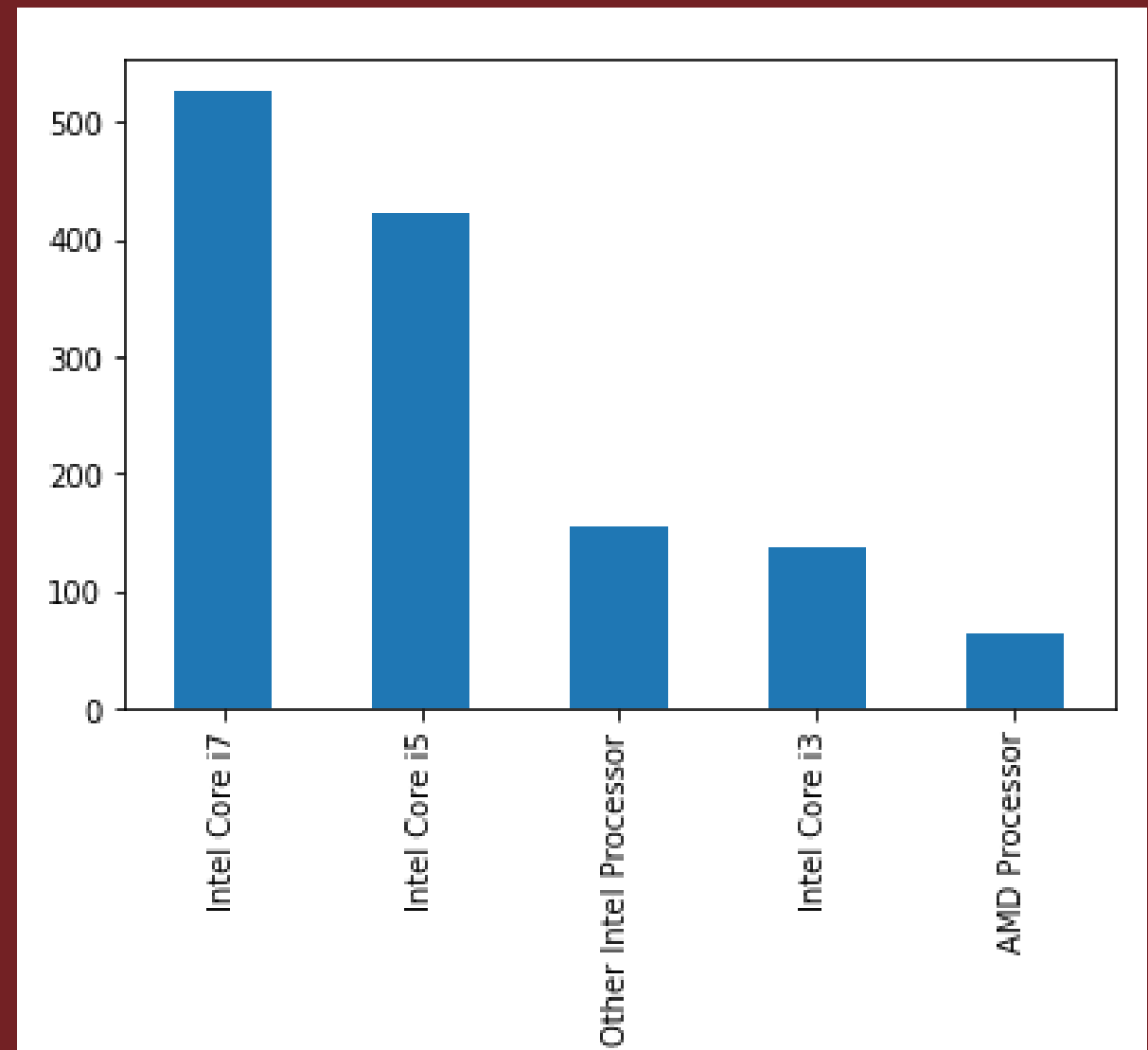
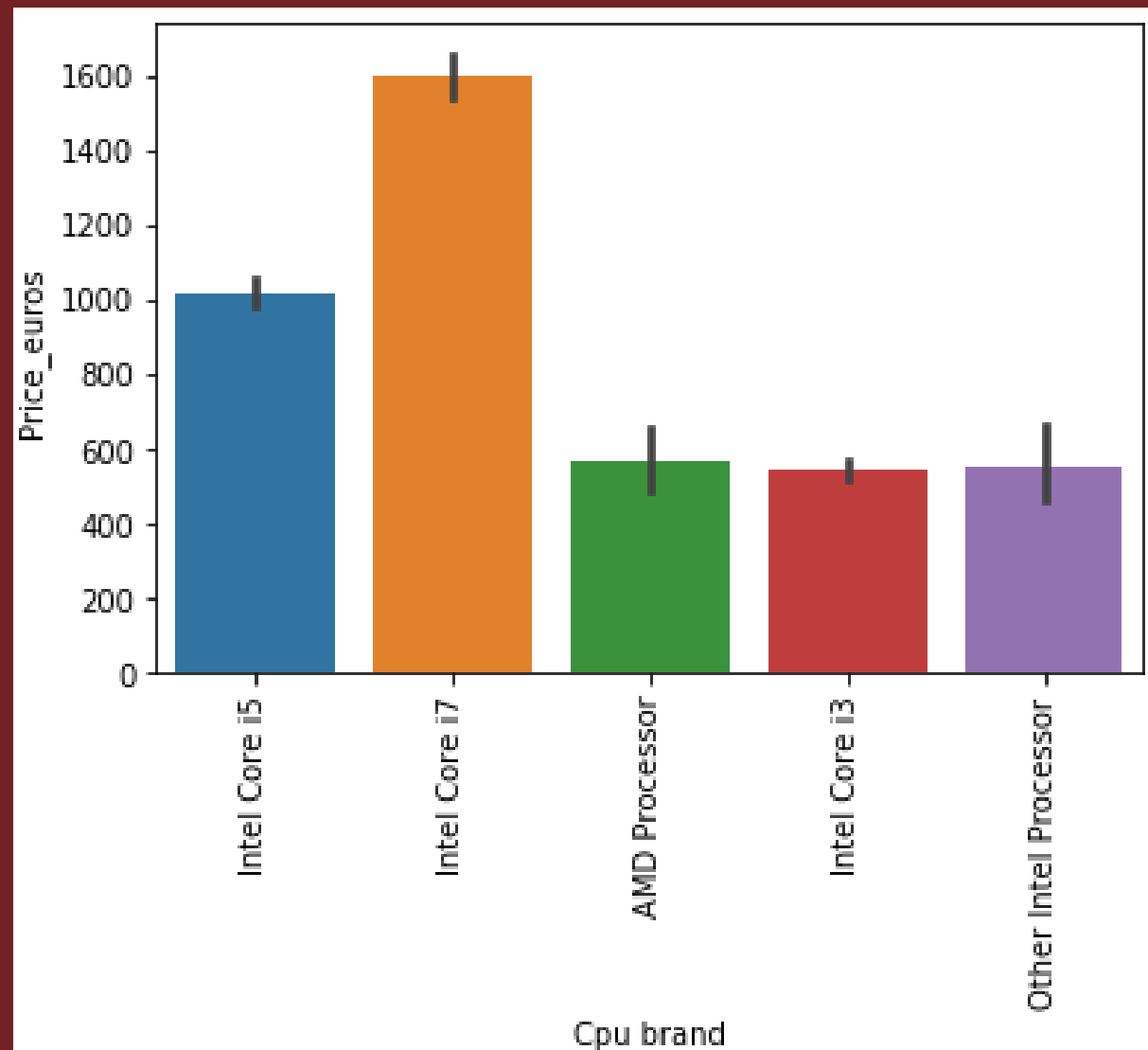
# PRICE-EUROS & TOUCHSCREEN

Touchscreen is Expensive  
Then other screens.



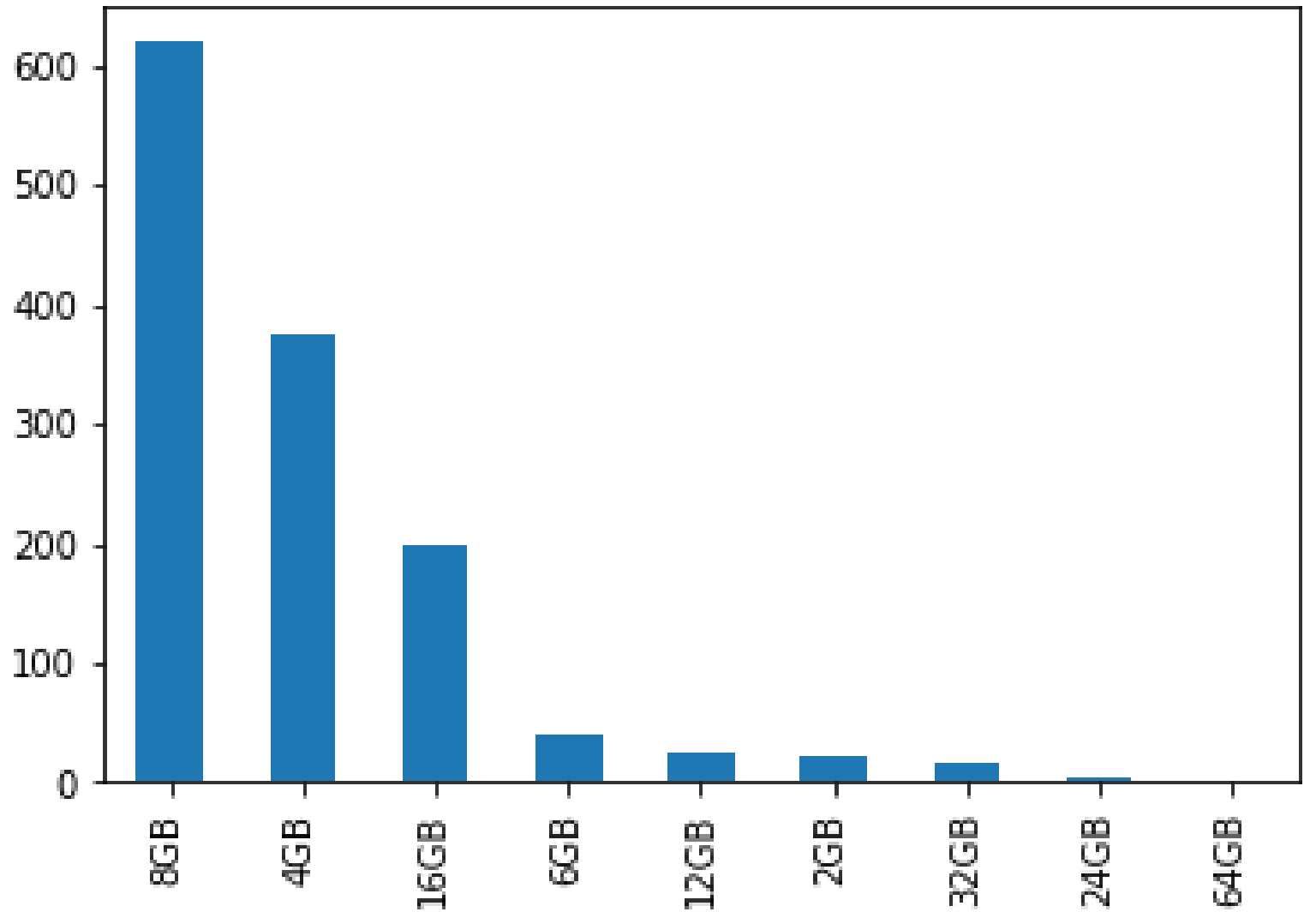
# CPU BRAND

From slide No. 5 and from these two forms, we conclude that the CPU brand is the most expensive piece in a laptop.



# RAM

We conclude that ram 8 is the most used.

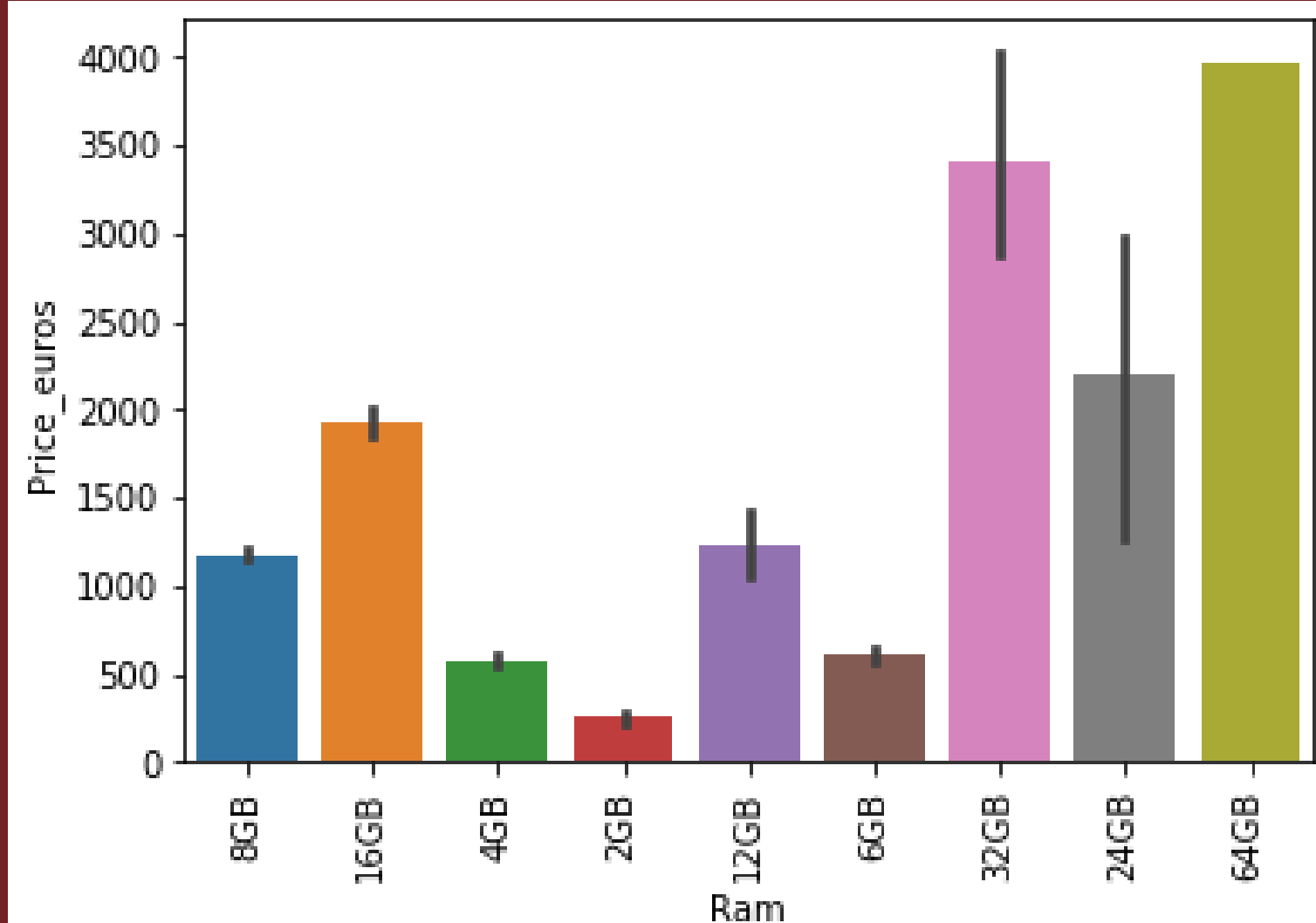




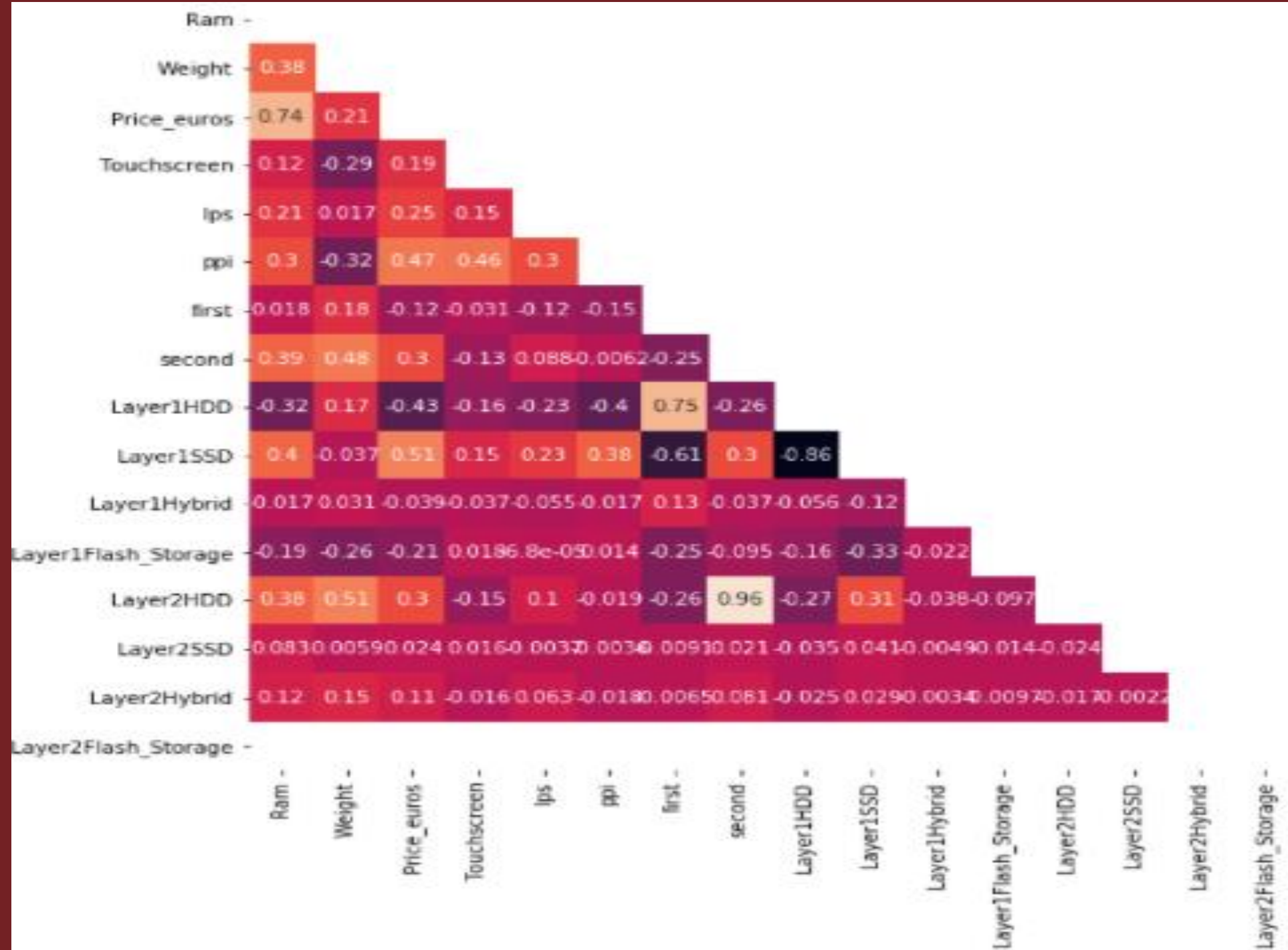
# PRICE-EUROS & RAM

What is the relationship between RAM and prices?

There is a direct relationship between RAM and prices.



We conclude from the heatmap that the most influential columns on prices are RAM, SSD and CPU.



# MODELING



LINEAR REGRESSION



DECISION TREE



RANDOM FOREST  
REGRESSION

# LINEAR REGRESSION







# THANK YOU

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Honored to have any questions!

