

MySkill | Deloitte.

Portfolio - Short Class

# Python Introduction

Galuh Sekar Cendani



Rabu, 18 Oktober 2023

#RintisKarirImpian



Build your skill and portfolio via [myskill.id/bootcamp](https://myskill.id/bootcamp)

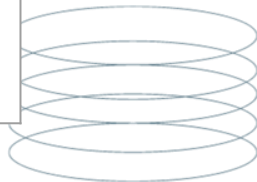
# Course Summary

Poin Belajar	Rangkuman
Data Analysis Fundamental	<p>Framework:</p>  <p>Data analytics is process include data extraction like web scraping, data cleaning, data wrangling, analysis and data visualization</p>
Phyton in Data Analysis	<p>Phyton is <b>programming language</b> that</p>  <ul style="list-style-type: none"><li>✓ Simple and easy to learn</li><li>✓ Free and open source</li><li>✓ Has large community</li><li>✓ Powerful <b>libraries</b>; such as pandas, numpy, matplotlib, etc</li></ul>

# Mini Exercise –Task

Today, we are here to delve into a comprehensive analysis of our bike store's sales data, seeking to uncover key insights that can drive our business forward. Data source sales\_data.csv <https://bit.ly/DataSetPhytonIntroduction>. | Apply minimal 2 lib, Pandas dan matplotlib

No	Pertanyaan
1	Berapa rata-rata umur customer dan order_quantity? (Gunakan nama) <i>Average Customer Age and Order Quantity</i>
2	Tampilkan histogram dari Order_Quantity
3	Berapa banyak sales per tahunnya? Tampilkan dalam bentuk Pie Chart <i>Sales Performance per Year</i>
4	Buatlah list untuk setiap produk yang terjual <i>List of sold products</i>
5	Apakah ada hubungan antara profit per negara? Tunjukkan grouped box plot per negara dengan profit value nya. <i>Correlation between profit per country, using box plot</i>



# Mini Exercise

## 1. Average of customer age and order quantity?

🌻 So, First we aimed to understand our customer demographics better. let's we see the statistic descriptive of Customer Age (Column 4) and Order Quantity (Column 12) 🌻

```
mean_customer_age = sales ['Customer_Age'].mean().round(2)
mean_order_quantity = sales['Order_Quantity'].mean().round(2)

print(f"Average of Customer Age: {mean_customer_age}")
print(f"Average of Customer Age: {mean_order_quantity}")
```

Average of Customer Age: 35.92

Average of Customer Age: 11.9

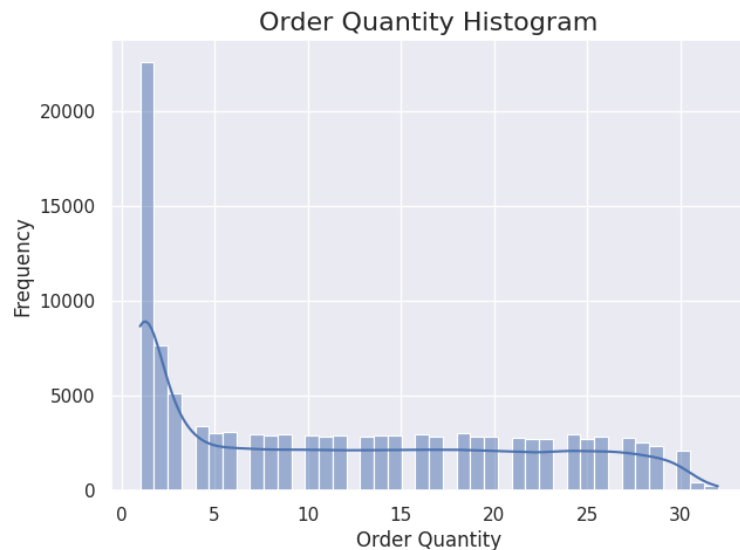
★ On average, our customers are approximately 👥 **35 years old**, and they typically purchase an average of 💎 **11 bikes per order** This insight can help us fine-tune our marketing strategies and product offerings to better align with our customer base ★

# Mini Exercise

## 1. Order Quantity Histogram

🚲 To visualize the distribution of order quantities, we created a histogram 🚲

★ This histogram reveals that most of our customers tend to make 🚲 **0 - 5 order quantities**, with 🛒 **over than 20000 frequencies** being the most common. Most customers 👥 place small orders, with a smaller but significant proportion opting for higher quantities.

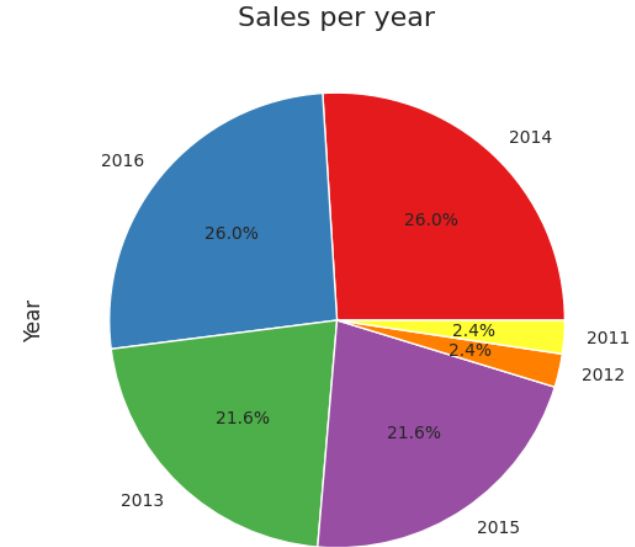


# Mini Exercise

## 3. Sales Per Year

💰 To aiming the total sales performance per year, we turn into Pie Chart 💰

★ Our analysis unveiled that the ✅ **total sales figures have steadily increased from 2011 to 2016**. Sales performance had been a **generally consistent upward trajectory** ★, with varying growth rates.



# Mini Exercise

## 4. List of Sold Product

👉 simple count of how many times each product appears 👉

```
[269] sales['Product'].value_counts()
```

```
Water Bottle - 30 oz.      10794
Patch Kit/8 Patches       10416
Mountain Tire Tube        6816
AWC Logo Cap              4358
Sport-100 Helmet, Red     4220
...
Mountain-100 Silver, 48    58
Mountain-100 Silver, 42    54
Mountain-500 Silver, 48    40
Road-650 Red, 52           32
Mountain-500 Black, 52     22
Name: Product, Length: 130, dtype: int64
```

👉 List Sold Products by Total Order Quantity, from highest to lowest quantity ordered 👉

```
Mountain Bottle Cage: 37480
Bike Wash - Dissolver: 27579
HL Mountain Tire: 27562
LL Road Tire: 26584
ML Mountain Tire: 20992
ML Road Tire: 20865
Hydration Pack - 70 oz.: 19857
HL Road Tire: 15610
Half-Finger Gloves, S: 14794
Long-Sleeve Logo Jersey, L: 13979
Half-Finger Gloves, L: 13153
LL Mountain Tire: 12744
Half-Finger Gloves, M: 11994
Long-Sleeve Logo Jersey, XL: 11549
Short-Sleeve Classic Jersey, S: 11544
Long-Sleeve Logo Jersey, M: 11345
Long-Sleeve Logo Jersey, S: 10896
Short-Sleeve Classic Jersey, L: 10435
Women's Mountain Shorts, M: 10317
Touring Tire: 10221
Racing Socks, M: 9529
Women's Mountain Shorts, S: 9273
Short-Sleeve Classic Jersey, XL: 9244
Short-Sleeve Classic Jersey, M: 9133
Racing Socks, L: 8107
Women's Mountain Shorts, L: 7620
Classic Vest, S: 4943
Classic Vest, M: 4876
Hitch Rack - 4-Bike: 4753
Classic Vest, L: 4651
All-Purpose Bike Stand: 2400
Mountain-200 Black, 38: 1642
Mountain-200 Silver, 38: 1477
Mountain-200 Silver, 42: 1461
Mountain-200 Black, 46: 1349
Road-750 Black, 48: 1287
Mountain-200 Black, 42: 1282
Road-150 Red, 62: 1191
Mountain-200 Silver, 46: 1149
Road-750 Black, 44: 1012
Road-150 Red, 56: 990
Road-150 Red, 52: 980
Road-150 Red, 48: 952
Road-750 Black, 52: 881
Road-250 Black, 52: 754
Road-350-W Yellow, 48: 748
Road-550-W Yellow, 42: 723
Road-350-W Yellow, 42: 716
Road-550-W Yellow, 44: 690
Road-150 Red, 44: 613
Road-550-W Yellow, 48: 613
Road-250 Red, 58: 588
Road-550-W Yellow, 38: 577
Road-350-W Yellow, 40: 573
Road-550-W Yellow, 40: 570
Road-250 Black, 44: 551
Road-250 Black, 58: 543
Road-750 Black, 58: 495
Mountain-400-W Silver, 38: 470
Road-650 Red, 60: 150
Touring-3000 Yellow, 54: 148
Road-650 Black, 60: 147
Mountain-500 Black, 48: 146
Touring-3000 Blue, 58: 144
Touring-3000 Blue, 62: 131
Road-650 Black, 52: 131
Road-650 Black, 48: 126
Touring-3000 Blue, 44: 125
Road-650 Black, 44: 123
Mountain-100 Silver, 38: 120
Road-650 Red, 44: 120
Mountain-500 Black, 42: 108
Mountain-100 Black, 48: 108
Mountain-500 Silver, 52: 104
Touring-3000 Yellow, 58: 103
Mountain-500 Silver, 44: 96
Mountain-100 Black, 38: 94
Touring-3000 Blue, 54: 94
Mountain-100 Black, 44: 94
Touring-3000 Yellow, 62: 83
Mountain-100 Silver, 44: 83
Mountain-100 Silver, 42: 77
Mountain-100 Silver, 48: 75
Mountain-100 Black, 42: 73
Touring-3000 Blue, 50: 70
Mountain-500 Silver, 48: 52
Road-650 Red, 52: 52
Mountain-500 Black, 52: 40
```

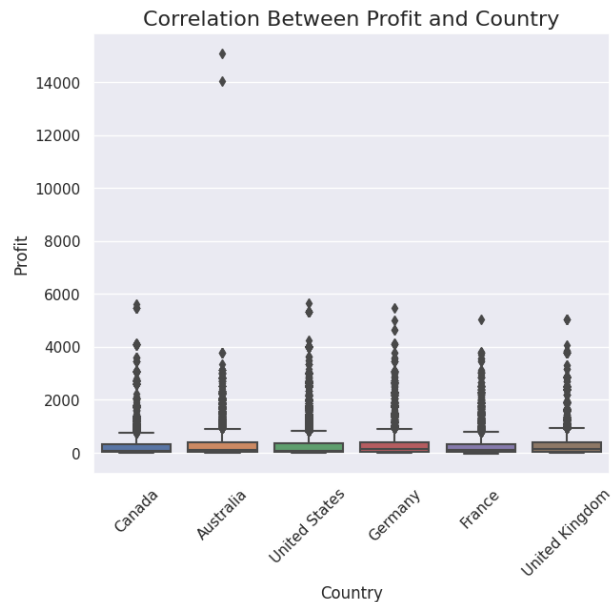
# Mini Exercise

## 5. Correlation between Profit per Country?

▣ Lastly, we examined the potential correlation between profit and countries in which our stores located using **Boxplot**

Boxplot particularly useful for identifying the central tendency and spread of data, as well as for detecting outliers ▣

★ The grouped box plot analysis shows that the **stability in profit across different countries**, we should investigate further to understand the specific factors impacting profitability.





# Mini Exercise

## SUMMARY

- ★ Our customer base has an average age of 35, with a preference for small orders of around 11 bikes per purchase. Sales have consistently risen from 2011 to 2016, but with varying growth rates. The box plot suggests similar average profit across countries.

## Recommendations

- Customer-Centric Strategies
- Growth Analysis
- Targeted Marketing
- Continuous Improvement

Look here for more detail

Notebook: <https://bit.ly/BikeStoreSales-gs>

MySkill | Deloitte.

# Follow Me!

LinkedIn: [linkedin.com/in/galuhsekar748](https://www.linkedin.com/in/galuhsekar748)

Short Class Data Analysis  
by MySkill x Deloitte

#RintisKarirImpian

