Day 1 - 4 Code Portfolio

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Day 1

Phase 1 - CeberaTech Introduction

- The start of the day was introduction of us as CeberaTech employees.
- Here, Dr. Thasni (AKA the CEO of CeberaTech) told us about the mission and vision of CeberaTech
- We also got briefed with what the code of conduct was at this company
- At last, we were given the training overview of the company

Day 1 (Contd.)

Phase 2 - Python Programming

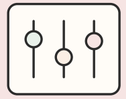
- This phase contained the revision of foundational Python Programming Concepts such as
  - Data Types
  - OOPs
  - Error Handling, etc.
- And it ended with **13 assignments** (each with ~10 sub-questions) that were supposed to be submitted by the **end of day.**

```python
def print_inverted_pyramid(n):
    for i in range(n, 0, -1):
        for j in range(n - i):
            print(" ", end="")
        for k in range(2 * i - 1):
            print("|", end="")
        print()

print_inverted_pyramid(5)
```

```python
sequences = [1,2,7,9,12]
filter(lambda x: x > 6, sequences)
```

Example Usage of a Lambda

Day 2
SQL Training



Setting up the local environment

Set up a SQL database on local system

Schema of an RDBMS

Learn about tables, relationships, keys, etc

SQL Operations

Operations like LIKE, ILIKE, Joins, etc were covered in this segment

Assignments and Project

Next Page →

Day 2
(Contd.)
Assignment

```
select * from city where countrycode='JPN'
```

* from city where countrycode='JPN' Enter a SQL expression to filter results (use Ctrl+

123 id	A-Z name	A-Z countrycode	A-Z district	123 population
1,613	Neyagawa	JPN	Osaka	257,315
1,630	Ageo	JPN	Saitama	209,442
1,661	Sayama	JPN	Saitama	162,472
1,681	Omuta	JPN	Fukuoka	142,889
1,739	Tokuyama	JPN	Yamaguchi	107,078

```
select * from city where city.countrycode='USA' and city.population > 100000
```

* from city where city.countrycode='USA' and city.pc Enter a SQL expression to filter results (use Ctrl+Spac

123 id	A-Z name	A-Z countrycode	A-Z district	123 population
3,815	El Paso	USA	Texas	563,662
3,878	Scottsdale	USA	Arizona	202,705
3,965	Corona	USA	California	124,966
3,973	Concord	USA	California	121,780
3,977	Cedar Rapids	USA	Iowa	120,758
3,982	Coral Springs	USA	Florida	117,549

Day 2 (Contd.)

Project - Library Management System

https://woxsen-4x4-training.onrender.com

Day 3

NumPy and Pandas

4. Add a new column Total Sales that multiplies Quantity Ordered by Price Each.

```
df["Total Sales"] = df["Quantity Ordered"] * df["Price Each"]
df
```

	Order ID	Product	Quantity Ordered	Price Each	Order Date	City	Total Sales
0	176558	USB-C Charging Cable	2	11.95	1/22/2023	New York	23.90
1	176559	Bose SoundSport Headphones	1	99.99	1/23/2023	Los Angeles	99.99
2	176560	Google Phone	1	600.00	1/23/2023	Chicago	600.00
3	176561	Wired Headphones	3	11.99	1/24/2023	Houston	35.97
4	176562	Lightning Charging Cable	1	14.95	1/24/2023	New York	14.95
5	176563	iPhone	1	700.00	1/25/2023	San Francisco	700.00
6	176564	ThinkPad Laptop	1	1200.00	1/25/2023	Chicago	1200.00
7	176565	AAA Batteries (4-pack)	4	3.84	1/26/2023	Los Angeles	15.36
8	176566	27in 4K Gaming Monitor	2	400.00	1/26/2023	Houston	800.00
9	176567	Flatscreen TV	1	300.00	1/27/2023	San Francisco	300.00

5. Find the total sales for each city and display it as a new DataFrame.

```
# Group by City and sum the Total Sales
city_sales = df.groupby("City")["Total Sales"].sum().reset_index()
# Display the result
print(city_sales)
```

```
           City  Total Sales
0       Chicago      1800.00
1       Houston       835.97
2   Los Angeles       115.35
3      New York        38.85
4  San Francisco      1000.00
```

6. Identify the product with the highest total sales.

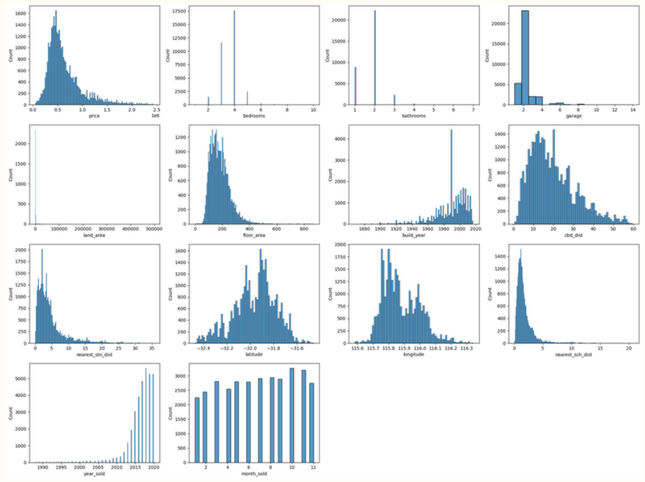
```
product_sales = df.groupby("Product")["Total Sales"].sum().reset_index()
max_sales_product = product_sales.loc[product_sales["Total Sales"].idxmax()]

max_sales_product
```

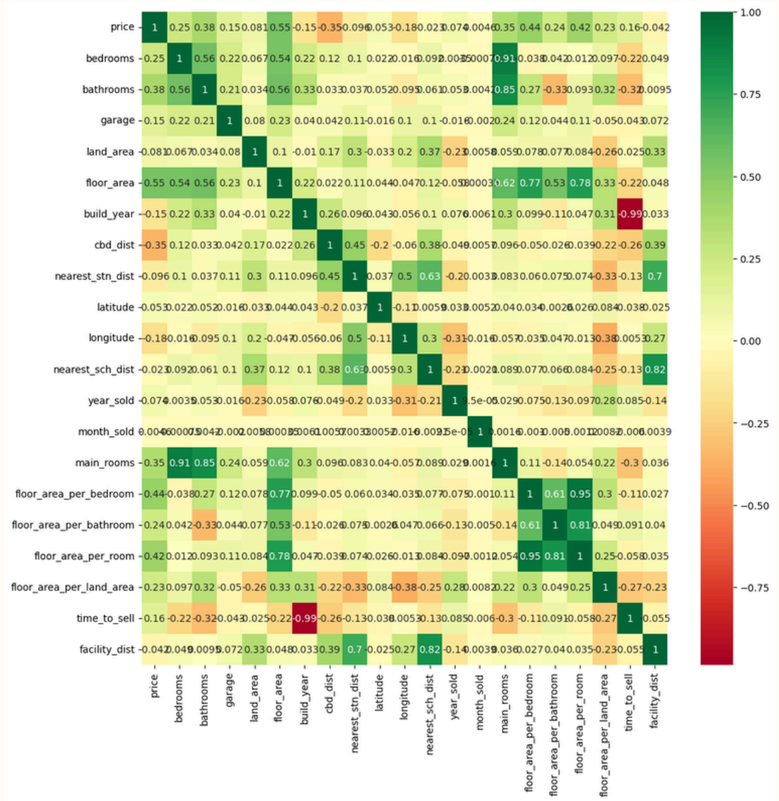
```
Product        ThinkPad Laptop
Total Sales             1200.0
Name: 6, dtype: object
```

Day 3 (Contd.)

EDA:

- How to start exploring data
- Cleaning the data for better understanding (dealing with missing values, outliers, etc)
- Creating “interactions” that may be useful for analysis
- Visualizing that data using tools like **MatPlotLib** and **Seaborn**





Day 3 (Contd)

ML Model deployment on Streamlit

- Dataset: Breast Cancer dataset
- Classification/Regression? : Classification
- ML algorithm: Random Forests Classifier
- Accuracy: ~96%

Day 4

Deep Learning

What was covered:

- Neurons
- Weights
- Activation Functions

Assignment: Create a Deep Learning Model for any dataset of choice
My submission:

- **Dataset:** CIFAR-10 dataset
- **No. of Classes:** 10
- **Model used:** Custom CNN architecture
- **Callbacks Used:** ReduceLROnPlateu, EarlyStopping, CSVLogger

Any plots, observations, etc are provided beside: