Question 1.) Write a Python code to make a dictionary called stock_prices and put three keys (stock names) into it. The values should be lists that contain 10 stock prices for each stock. Using a for loop, print out the stocks, minimum price, average price, and maximum price for each stock.

```
# Write a Python code to make a dictionary called stock_prices and put three keys (stock names) into it.
# The values should be lists that contain 10 stock prices for each stock.
stock_prices = {
    "Amazon": [3300, 3325, 3290, 3310, 3330, 3350, 3305, 3315, 3340, 3320],
    "Scotiabank": [65, 66, 64, 67, 68, 66, 65, 67, 66, 64],
    "Shein": [15, 14, 16, 17, 15, 14, 16, 18, 17, 16]
}

# Using a for loop, print out the stocks, minimum price, average price, and maximum price for each stock.
for stock, prices in stock_prices.items():
    min_price = min(prices)
    max_price = max(prices)
    avg_price = sum(prices) / len(prices)

    print(f"Stock: {stock}")
    print(f"Minimum Price: ${min_price}")
    print(f"Average Price: ${avg_price:.2f}")
    print(f"Maximum Price: ${max_price}")
    print()
```

```
Stock: Amazon
Minimum Price: $3290
Average Price: $3318.50
Maximum Price: $3350

Stock: Scotiabank
Minimum Price: $64
Average Price: $65.80
Maximum Price: $68

Stock: Shein
Minimum Price: $14
Average Price: $15.80
```

```
Maximum Price: $18
```

Question 2. Use the employee csv file to create a python dataframe and find the following:

2.1. The data types of all variables

```
1 import pandas as pd
```

```
1 data = pd.read_csv("employee.csv")
2 data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5 entries, 0 to 4
Data columns (total 5 columns):
 #   Column         Non-Null Count  Dtype 
---  ------         --------------  ----- 
 0   123            5 non-null      int64 
 1   Harold Wilson  5 non-null      object
 2   Acct           4 non-null      object
 3   01/15/1989     5 non-null      object
 4   $78,123.00     4 non-null      object
dtypes: int64(1), object(4)
memory usage: 328.0+ bytes
```

2.2. How many data points in the dataframe

```
1 data_points = data.shape[0]
2 print(f"Number of data points: {data_points}")
```

```
Number of data points: 5
```

2.3. What is the size of the dataframe

```
1 data_size = data.size
2 print(f"Dataframe size (rows, columns): {data_size}")
```

```
Dataframe size (rows, columns): 25
```

2.4. Show the last 7 rows of the dataframe

```
1 last_seven_rows = data.tail(7)
2 print(last_seven_rows)
```

```
    123   Harold Wilson      Acct  01/15/1989 $78,123.00
0   128     Julia Child      Food  08/29/1988    $89,123
1     7      James Bond  Security  02/01/2000    $82,100
2   828     Roger Doger      Acct  08/15/1999        NaN
3   900  Earl Davenport      Food  09/09/1989    $45,399
4   906  James Swindler       NaN  12/21/1978    $78,200
```

2.5. Remove all missing values

```
1 missing_values_remove = data.dropna()
```

2.6. Check if the missing values are removed.

```
1 print(missing_values_remove)
```

```
    123   Harold Wilson      Acct  01/15/1989 $78,123.00
0   128     Julia Child      Food  08/29/1988    $89,123
1     7      James Bond  Security  02/01/2000    $82,100
3   900  Earl Davenport      Food  09/09/1989    $45,399
```

2.7. Create a new dataframe that has only the first two variables and the last two rows.

```
data2 = data.iloc[-2:, :2]
print(data2)
```

```
    123   Harold Wilson
3   900  Earl Davenport
4   906  James Swindler
```

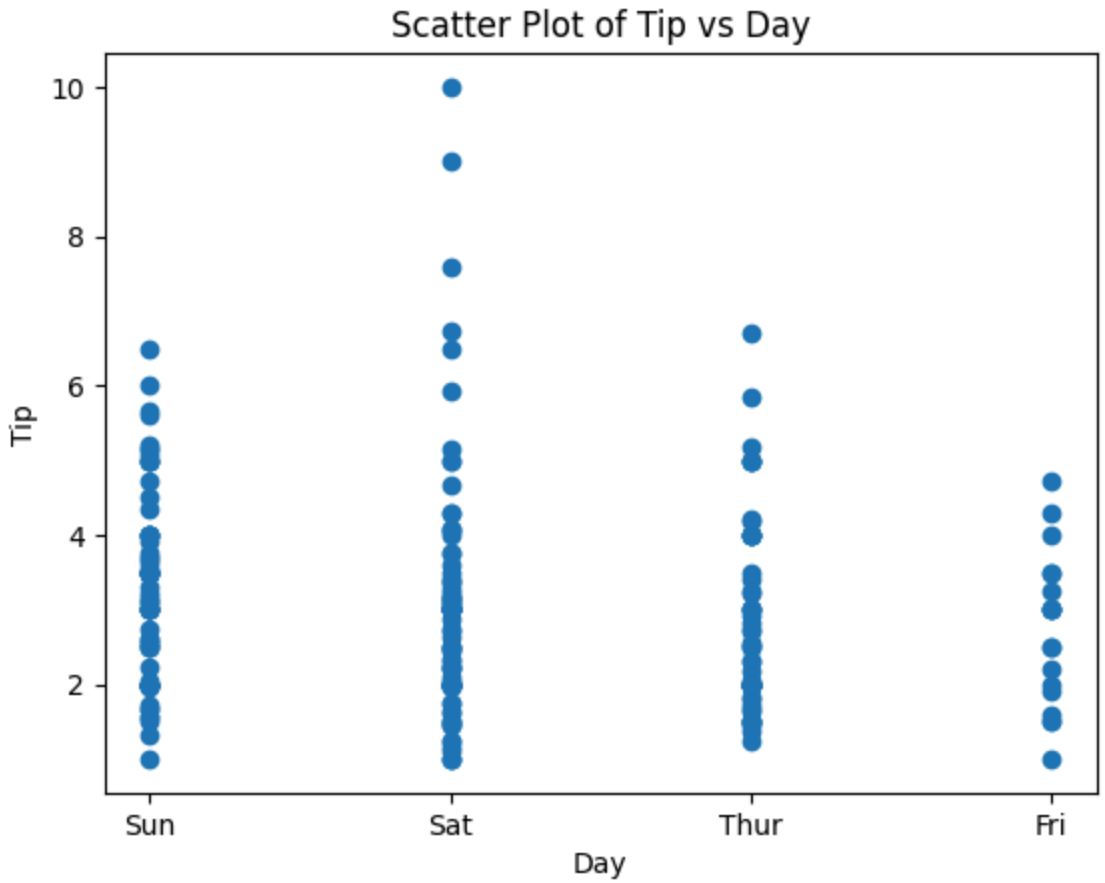
Question 3. Tips database is the record of the tip given by the customers in a restaurant for two and a half months in the early 1990s. It contains 6 columns such as total_bill, tip, sex, smoker, day, time, size.

3.1. Create a Scatter plot with day against tip.

```
import pandas as pd
import matplotlib.pyplot as plt

tips = pd.read_csv("tips.csv")

plt.scatter(tips['day'], tips['tip'])
plt.xlabel('Day')
plt.ylabel('Tip')
plt.title('Scatter Plot of Tip vs Day')
plt.show()
```



3.2. Create a Bar chart with day against tip.

```
days =  tips["day"]
tip = tips["tip"]

plt.bar(days, tip, color="goldenrod")
plt.xlabel('Day')
plt.ylabel('Tip')
plt.title('Average Tip by Day')
plt.xticks(days)
plt.grid(True, linewidth = 1, linestyle = "--")
plt.show()
```