Importing Libraries

```
from bs4 import BeautifulSoup
import requests
import time
import datetime
from requests_html import HTMLSession
import smtplib
import csv
from datetime import datetime
import pandas as pd
```

Scraping data Using HTMLSession

```
# Connect to Website and pull in data

s = HTMLSession()

query = 'Boston'

URL = f'https://www.google.com/search?q={query}+Weather'

r = s.get(URL, headers={'User-Agent': 'Mozilla/5.0 (Macintosh; Intel
Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/122.0.0.0 Safari/537.36'})

temp = r.html.find('span#wob_tm', first =True).text

unit = r.html.find('div.vk_bk.wob-unit span.wob_t', first =True).text

desc = r.html.find('div.VQF4g', first =True).find('span#wob_dc', first
=True).text

print(query, temp, unit, desc)
```

```
Boston 41 °F Cloudy
```

Multiple cities Both Celsius/Fahrenheit

```
from requests_html import HTMLSession

def get_weather(cities):
    s = HTMLSession()
    query = city
    URL = f'https://www.google.com/search?q={query}+Weather'
    r = s.get(URL, headers={'User-Agent': 'Mozilla/5.0 (Macintosh;
Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/122.0.0.0 Safari/537.36'})
```

```
    temp_fahrenheit = int(float(r.html.find('span#wob_tm',
first=True).text))
    unit = r.html.find('div.vk_bk.wob-unit span.wob_t',
first=True).text
    desc = r.html.find('div.VQF4g', first=True).find('span#wob_dc',
first=True).text
    time = r.html.find('div.VQF4g', first=True).find('#wob_dts',
first=True).text

    # Convert Fahrenheit to Celsius and round to integer
    temp_celsius = int(round((temp_fahrenheit - 32) * 5/9))

    return temp_fahrenheit, temp_celsius, unit, desc, time

cities = ['Boston', 'New York', 'Austin']  # Add more cities as needed

for city in cities:
    temp_fahrenheit, temp_celsius, unit, desc, time =
get_weather(cities)  # Unpack all five values
    print(f"Weather in {city}:")
    print(f"- Temperature: {temp_celsius}°C ({temp_fahrenheit}°F)")
    print(f"- Description: {desc}")
    print(f"- Day/Time: {time}")
    print()
```

```
Weather in Boston:
- Temperature: 5°C (41°F)
- Description: Cloudy
- Day/Time: Thursday 10:00 PM

Weather in New York:
- Temperature: 8°C (46°F)
- Description: Mostly cloudy
- Day/Time: Thursday 10:00 PM

Weather in Austin:
- Temperature: 21°C (70°F)
- Description: Cloudy
- Day/Time: Thursday 9:00 PM
```

Using BeautifulSoap Library (Weather of US TOP 10 Metropolitan area Cities by Population)

```
def get_weather(city):
    query = city
    URL = f'https://www.google.com/search?q={query}+Weather'
    headers = {'User-Agent': 'Mozilla/5.0 (Macintosh; Intel Mac OS X
10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0
Safari/537.36'}
```

```
    # Send GET request
    response = requests.get(URL, headers=headers)

    # Create BeautifulSoup object
    soup = BeautifulSoup(response.text, 'html.parser')

    # Find temperature in Fahrenheit
    temp_fahrenheit = int(float(soup.find('span', id='wob_tm').text))

    # Find temperature unit
    unit = soup.find('div', class_='vk_bk wob-unit').find('span',
class_='wob_t').text

    # Find weather description
    desc = soup.find('div', class_='VQF4g').find('span',
id='wob_dc').text

    #Find Day/ time
    #day = r.html.find('div.VQF4g', first=True).find('#wob_dts',
first=True).text
    day_time_string = r.html.find('div.VQF4g',
first=True).find('#wob_dts', first=True).text

    # Extract only the day from the date/time string
    day = day_time_string.split()[0]


    # Convert Fahrenheit to Celsius and round to integer
    temp_celsius = int(round((temp_fahrenheit - 32) * 5/9))

   # Get current date and time
    now = datetime.now()
    current_time = now.strftime("%Y-%m-%d %H:%M:%S")

    # Parse the current_time string to get the datetime object
    parsed_time = datetime.strptime(current_time, "%Y-%m-%d %H:%M:%S")

    # Extract date and time components
    date = parsed_time.strftime("%Y-%m-%d")  # Format the date as
desired
    time = parsed_time.strftime("%H:%M:%S")  # Format the time as
desired

    return temp_fahrenheit, temp_celsius, unit, desc, day, date, time

cities = ['Mexico City', 'New York', 'Los Angeles', 'Chicago',
'Houston', 'Phoenix', 'Philadelphia', 'Austin', 'San Diego', 'Dallas']
# Add more cities as needed
```

```
for city in cities:
    temp_fahrenheit, temp_celsius, unit, desc, day, date, time =
get_weather(city)
    print(f"Weather in {city}:")
    print(f"- Temperature: {temp_celsius}°C ({temp_fahrenheit}°F)")
    print(f"- Description: {desc}")
    print(f"- Day: {day}")
    print(f"- Time: {time}")
    print(f"- Date: {date}")
    print()
```

```
Weather in Mexico City:
- Temperature: 22°C (71°F)
- Description: Clear
- Day: Thursday
- Time: 22:56:05
- Date: 2024-03-07

Weather in New York:
- Temperature: 8°C (46°F)
- Description: Clear
- Day: Thursday
- Time: 22:56:05
- Date: 2024-03-07

Weather in Los Angeles:
- Temperature: 15°C (59°F)
- Description: Clear
- Day: Thursday
- Time: 22:56:06
- Date: 2024-03-07

Weather in Chicago:
- Temperature: 7°C (44°F)
- Description: Cloudy
- Day: Thursday
- Time: 22:56:07
- Date: 2024-03-07

Weather in Houston:
- Temperature: 20°C (68°F)
- Description: Light rain
- Day: Thursday
- Time: 22:56:08
- Date: 2024-03-07

Weather in Phoenix:
- Temperature: 13°C (55°F)
- Description: Light rain
- Day: Thursday
```

```
- Time: 22:56:09
- Date: 2024-03-07

Weather in Philadelphia:
- Temperature: 10°C (50°F)
- Description: Clear
- Day: Thursday
- Time: 22:56:09
- Date: 2024-03-07

Weather in Austin:
- Temperature: 21°C (70°F)
- Description: Cloudy
- Day: Thursday
- Time: 22:56:10
- Date: 2024-03-07

Weather in San Diego:
- Temperature: 15°C (59°F)
- Description: Light rain
- Day: Thursday
- Time: 22:56:11
- Date: 2024-03-07

Weather in Dallas:
- Temperature: 16°C (61°F)
- Description: Rain
- Day: Thursday
- Time: 22:56:11
- Date: 2024-03-07
```

Store Data in CSV

```
# Open a CSV file in write mode
with open('weather_data.csv', 'w', newline='') as csvfile:
    # Create a CSV writer object
    writer = csv.writer(csvfile)

    #Write header row
    writer.writerow(['City', 'Temperature (Celsius)', 'Temperature
(Fahrenheit)', 'Description', 'Day', 'Date', 'Time'])

    # Iterate over cities
    for city in cities:
        # Get weather data
        temp_fahrenheit, temp_celsius, unit, desc, day, date, time =
get_weather(city)

        # Write data to CSV file
```

```
        writer.writerow([city, temp_celsius, temp_fahrenheit, desc,
day, date, time])



print("Weather data has been saved to weather_data.csv file.")
```

```
Weather data has been saved to weather_data.csv file.
```

```
# Open the CSV file in read mode
with open('weather_data.csv', 'r') as csvfile:
    # Create a CSV reader object
    reader = csv.reader(csvfile)

    # Iterate over each row and print it
    for row in reader:
        print(row)
```

```
['City', 'Temperature (Celsius)', 'Temperature (Fahrenheit)',
'Description', 'Day', 'Date', 'Time']
['Mexico City', '22', '71', 'Clear', 'Thursday', '2024-03-07',
'22:56:14']
['New York', '8', '46', 'Clear', 'Thursday', '2024-03-07', '22:56:15']
['Los Angeles', '15', '59', 'Clear', 'Thursday', '2024-03-07',
'22:56:16']
['Chicago', '7', '44', 'Cloudy', 'Thursday', '2024-03-07', '22:56:17']
['Houston', '20', '68', 'Light rain', 'Thursday', '2024-03-07',
'22:56:17']
['Phoenix', '13', '55', 'Light rain', 'Thursday', '2024-03-07',
'22:56:18']
['Philadelphia', '10', '50', 'Clear', 'Thursday', '2024-03-07',
'22:56:19']
['Austin', '21', '70', 'Cloudy', 'Thursday', '2024-03-07', '22:56:20']
['San Diego', '15', '59', 'Light rain', 'Thursday', '2024-03-07',
'22:56:20']
['Dallas', '16', '61', 'Rain', 'Thursday', '2024-03-07', '22:56:21']
```

```
df = pd.read_csv('weather_data.csv', header= 0, encoding='utf-8-sig')


df
```

```
           City  Temperature (Celsius)  Temperature (Fahrenheit)
Description  \
0   Mexico City                     22                        71
Clear
1      New York                      8                        46
Clear
2   Los Angeles                     15                        59
Clear
3       Chicago                      7                        44
```

```
Cloudy
4       Houston                    20                         68
Light rain
5       Phoenix                    13                         55
Light rain
6  Philadelphia                    10                         50
Clear
7        Austin                    21                         70
Cloudy
8     San Diego                    15                         59
Light rain
9        Dallas                    16                         61
Rain

         Day        Date      Time
0  Thursday  2024-03-07  22:56:14
1  Thursday  2024-03-07  22:56:15
2  Thursday  2024-03-07  22:56:16
3  Thursday  2024-03-07  22:56:17
4  Thursday  2024-03-07  22:56:17
5  Thursday  2024-03-07  22:56:18
6  Thursday  2024-03-07  22:56:19
7  Thursday  2024-03-07  22:56:20
8  Thursday  2024-03-07  22:56:20
9  Thursday  2024-03-07  22:56:21
```

```
df.to_csv(r'/Users/achyutanandmishra/Documents/Practice/Web Scrapping/weather_data.csv', index = False)
```