Soal
Case

Web Scraping

Web Scraping is data scraping used for extracting data from websites. You are asked to create the Web Scraping application using **python programing language** with the **BeautifulSoup module** to scrape the website to get all Pokémon data on the website. The following are the requirements:

- The program consists of **3 menus**:
    1. **Scrape Website Data**
    2. **View Data**
    3. **Save Data**
    4. **Exit**

```
1. Scrape Website Data
2. View Data
3. Save Data
4. Exit
>>
```

- If the user chooses **menu 1** ('**Scrape Website Data**'), then:
    - If can **connect to the target website**, then:
        - **Remove all** Pokémon data from the **list**
        - **Scrape** the target website go get all **Pokémon data** (**No**, **Name**, **Type**, **Species**, **Description**, **Image**) and **save the data to list**
        - The program will show the message '**Starting scrape website**'
        - If the program has **finished scrape website**, then show **time taken to scrape in the seconds time** and show the message '**Finish scrape website**'

```
Starting scrape website

Time taken to scrape: 5.663604497909546 seconds
Finish scrape website
```

o Otherwise, the program will show the message 'No connection could be made because the target machine actively refused it'

```
No connection could be made because the target machine actively refused it
```

- If the user chooses **menu 2** ('**View Data**'), then:
  o If the program **has not to scrape the website**, then show the message '**Press scrape website first to get pokemon data**'

```
Press scrape website first to get pokemon data
```

  o Otherwise:
    ➢ The program asks the user to **input choose menu** to show data, which must be **between 0** and **2**

```
1. Show All Pokemon
2. Show Pokemon by Type
Choose [0 to return main menu]:
```

    ➢ If the **input is 0**, then the program will **return to the main menu**
    ➢ If the **input is 1**, then:
      ▪ **Show all Pokémon data**

```
+--------+-------+------------+---------------------+
| Index  | No    | Name       | Type                |
+--------+-------+------------+---------------------+
|      1 | #001  | Bulbasaur  | Grass - Poison      |
|      2 | #002  | Ivysaur    | Grass - Poison      |
|      3 | #003  | Venusaur   | Grass - Poison      |
|      4 | #004  | Charmander | Fire                |
|      5 | #005  | Charmeleon | Fire                |
|      6 | #006  | Charizard  | Fire - Flying       |
|      7 | #007  | Squirtle   | Water               |
|      8 | #008  | Wartortle  | Water               |
|      9 | #009  | Blastoise  | Water               |
|     10 | #010  | Caterpie   | Bug                 |
|     11 | #011  | Metapod    | Bug                 |
|     12 | #012  | Butterfree | Bug - Flying        |
|     13 | #013  | Weedle     | Bug - Poison        |
|     14 | #014  | Kakuna     | Bug - Poison        |
|     15 | #015  | Beedrill   | Bug - Poison        |
|     16 | #016  | Pidgey     | Normal - Flying     |
|     17 | #017  | Pidgeotto  | Normal - Flying     |
|     18 | #018  | Pidgeot    | Normal - Flying     |
|     19 | #019  | Rattata    | Normal              |
|     20 | #020  | Raticate   | Normal              |
|     21 | #021  | Spearow    | Normal - Flying     |
|     22 | #022  | Fearow     | Normal - Flying     |
|     23 | #023  | Ekans      | Poison              |
|     24 | #024  | Arbok      | Poison              |
|     25 | #025  | Pikachu    | Electric            |
|     26 | #026  | Raichu     | Electric            |
|     27 | #027  | Sandshrew  | Ground              |
|     28 | #028  | Sandslash  | Ground              |
|     29 | #029  | Nidoran F  | Poison              |
|     30 | #030  | Nidorina   | Poison              |
|     31 | #031  | Nidoqueen  | Poison - Ground     |
|     32 | #032  | Nidoran M  | Poison              |
|     33 | #033  | Nidorino   | Poison              |
|     34 | #034  | Nidoking   | Poison - Ground     |
```

- Ask the user to **input index**, which must **between 1** and **count of show data**

```
|   144 | #144 | Articuno   | Ice - Flying       |
|   145 | #145 | Zapdos     | Electric - Flying  |
|   146 | #146 | Moltres    | Fire - Flying      |
|   147 | #147 | Dratini    | Dragon             |
|   148 | #148 | Dragonair  | Dragon             |
|   149 | #149 | Dragonite  | Dragon - Flying    |
|   150 | #150 | Mewtwo     | Psychic            |
|   151 | #151 | Mew        | Psychic            |
+-------+------+------------+--------------------+
Choose Index [1..151]: 0
Choose Index [1..151]: 333
Choose Index [1..151]: 25
```

- **Show Pokémon detail base on selected index**

```
Pikachu #025

Type: Electric

Species: Mouse
Description:
Whenever Pikachu comes across something new, it blasts it with a jolt of electricity. If you come across a blackened ber
ry, it's evidence that this Pokemon mistook the intensity of its charge.

Image: image/pokemon/025.png

Press enter to continue
```

➢ If the **input is 2**, then:

- Ask the user to input **Pokémon type**, which must **exist in the Pokémon type data from scrape website** (**case sensitive**)

```
1. Show All Pokemon
2. Show Pokemon by Type
Choose [0 to return main menu]: 2

Choose Pokemon Type [must exists | case sensitive]: metal
Choose Pokemon Type [must exists | case sensitive]: fire
Choose Pokemon Type [must exists | case sensitive]: Fire
```

- **Show all Pokémon data where contain the type that user input**
- Ask the user to **input index**, which must **between 1** and **count of show data**

```
+-------+------+------------+--------------------+
| Index | No   | Name       | Type               |
+-------+------+------------+--------------------+
|     1 | #004 | Charmander | Fire               |
|     2 | #005 | Charmeleon | Fire               |
|     3 | #006 | Charizard  | Fire - Flying      |
|     4 | #037 | Vulpix     | Fire               |
|     5 | #038 | Ninetales  | Fire               |
|     6 | #058 | Growlithe  | Fire               |
|     7 | #059 | Arcanine   | Fire               |
|     8 | #077 | Ponyta     | Fire               |
|     9 | #078 | Rapidash   | Fire               |
|    10 | #126 | Magmar     | Fire               |
|    11 | #136 | Flareon    | Fire               |
|    12 | #146 | Moltres    | Fire - Flying      |
+-------+------+------------+--------------------+
Choose Index [1..12]: 0
Choose Index [1..12]: 13
Choose Index [1..12]: 3
```

- **Show Pokémon detail base on selected index**

```
Charizard #006

Type: Fire - Flying

Species: Flame
Description:
Charizard flies around the sky in search of powerful opponents. It breathes fire of such great heat that it melts anythi
ng. However, it never turns its fiery breath on any opponent weaker than itself.

Image: image/pokemon/006.png

Press enter to continue
```

- If the user chooses **menu 3** ('**Save Data**'), then:
  - If the program **has not to scrape the website**, then show the message '**Press scrape website first to get pokemon data**'

```
Press scrape website first to get pokemon data
```

  - Otherwise, the program will **save** all Pokémon data to the **file** which the name is '**pokemon.poke**' using the following format and show the message 'Successfully Save Data'

```
Format:
Name;No;Type
Species;Description
Image

Example:
Bulbasaur;#001;Grass-Poison
Seed;Bulbasaur can be …..
image/pokemon/001.png
Ivysaur;#002;Grass-Poison
Seed; There is a bud on …...
image/pokemon/002.png
```

```
Successfully Save Data
```

- If the user chooses **menu 4** ('**Exit**'), then the program will be closed

Note:

- To **initialize website database**, you can open this link **[Your Domain URL]/ initialize.php**
- Do not **modify** website code **except configuration for database**
- The account for login the website:

Username	Password
admin	admin123

- The **password hashing** using the **md5 algorithm** on the client side before the request send to the server
- The login page **protected** using **CSRF token**