```python
 1  # === pokemon.ipynb ===
 2
 3  #%%
 4  # Dependencies
 5  import pandas as pd
 6  import numpy as np
 7
 8
 9  #%%
10  # Save file path to variable
11  pokemon = "Resources/Pokemon.csv"
12
13
14  #%%
15  # Read with Pandas
16  pokemon_pd = pd.read_csv(pokemon)
17  pokemon_pd.head()
18
19
20  #%%
21  # Create new table
22  pokemon_type = pokemon_pd[["Type 1", "HP", "Attack",
23                             "Defense", "Sp. Atk", "Sp. Def", "Speed"]]
24
25  pokemon_type.head()
26
27
28  #%%
29  # ---------------------------------------------------------------------
30  # The original dataframe is trimmed down so that only the "Type 1"
31  # and stat columns remain
32  # ---------------------------------------------------------------------
33
34  # Create the GroupBy object based on the "Type 1" column
35  pokemon_group = pokemon_type.groupby(["Type 1"])
36
37  # ---------------------------------------------------------------------
38  # The DataFrame is then grouped according to the values contained within the
39  # `Type 1` column and the averages for each type are then calculated using
40  # the df.mean() method.
41  # ---------------------------------------------------------------------
42
43  # Converting the averages for each pokemon type into a dataframe
44  pokemon_comparison = pokemon_group.mean()
45  pokemon_comparison
46
47
48  #%%
49  # ---------------------------------------------------------------------
50  # A new DataFrame is then created using the GroupBy object returned by
51  #`pokemon_group.mean()` and the totals for each type of Pokemon is calculated
52  # by adding up the values in each row before placing them into a newly
53  # created "Totals" column.
54  # ---------------------------------------------------------------------
55
```

```
56  # Total number of points
57  pokemon_comparison["Total"] = pokemon_comparison["HP"] +
58      pokemon_comparison["Attack"] + pokemon_comparison["Defense"] +
59      pokemon_comparison["Sp. Atk"] + pokemon_comparison["Sp. Def"] +
60      pokemon_comparison["Speed"]
61
62  pokemon_comparison["Total"]
63
64
65  #%%
66  # Sort by strongest Pokemon, and reset index
67  strongest_pokemon = pokemon_comparison.sort_values(["Total"], ascending=False)
68  strongest_pokemon.reset_index(inplace=True)
69  strongest_pokemon
70
71
72  #%%
73  # Save output to Excel
74  pokemon_comparison.to_excel("output/pokemon_rankings.xlsx", index=False)
```