

```
f = Fruit("Orange", 15)
f.eat_fruit()
print(f.name)
print(f.price)
```

Output:

```
Fruit has been eaten
Orange
15
```

Further Readings - Python [1]

To study more about Python, please check [Python 3 Official Documentation](#). Get used to searching and reading this documentation. It is a great resource of knowledge.

1.4. Different Libraries for Data Preprocessing

Owing to the growing importance of data preprocessing, several Python libraries have been developed. Some of these libraries have been briefly reviewed in this section.

1.4.1. NumPy

NumPy is one of the most commonly used libraries for numeric and scientific computing. NumPy is extremely fast and contains support for multiple mathematical domains such as linear algebra, geometry, etc. It is extremely important to learn NumPy in case you plan to make a career in data science and data preprocessing.

1.4.2. Scikit Learn

Scikit learn, also called sklearn, is an extremely useful library for machine learning in Python. Sklearn contains many built-in

modules that can be used to perform data preprocessing tasks such as feature engineering, feature scaling, outlier detection, discretization, etc. You will be using Sklearn a lot in this book. Therefore, it can be a good idea to study sklearn before you start coding using this book.

1.4.3. Matplotlib

Data visualization is an important precursor to data preprocessing. Before you actually apply data preprocessing techniques on the data, you should know how the data looks like, what is the distribution of a certain variable, etc. [Matplotlib](#) is the de facto standard for static data visualization in Python.

1.4.4. Seaborn

Seaborn library is built on top of the Matplotlib library and contains all the plotting capabilities of Matplotlib. However, with Seaborn, you can plot much more pleasing and aesthetic graphs with the help of Seaborn default styles and color palettes.

1.4.5. Pandas

Pandas library, like Seaborn, is based on the Matplotlib library and offers utilities that can be used to plot different types of static plots in a single line of codes. With Pandas, you can import data in various formats such as CSV (Comma Separated View) and TSV (Tab Separated View), and can plot a variety of data visualizations via these data sources.

Further Readings - Data Preprocessing Libraries

To study more about data preprocessing libraries for Python, check these links:

[Numpy \[1\]](https://numpy.org/) (<https://numpy.org/>)

[Scikit Learn \[2\]](https://scikit-learn.org/stable/) (<https://scikit-learn.org/stable/>)

[Matplotlib \[3\]](https://matplotlib.org/) (<https://matplotlib.org/>)

[Seaborn \[4\]](https://seaborn.pydata.org/) (<https://seaborn.pydata.org/>)

[Pandas \[5\]](https://pandas.pydata.org/) (<https://pandas.pydata.org/>)

Hands-on Time - Exercise

Now, it is your turn. Follow the instruction in **the exercises below** to check your understanding of the advanced data visualization with Matplotlib. The answers to these questions are given at the end of the book.

Exercise 1.1

Question 1:

Which iteration should be used when you want to repeatedly execute a code specific number of times?

- A For Loop
- B While Loop
- C Both A and B
- D None of the above

Question 2:

What is the maximum number of values that a function can return in Python?

- A Single Value
- B Double Value
- C More than two values
- D None

Question 3:

Which of the following membership operators are supported by Python?

- A In
- B Out
- C Not In
- D Both A and C

Exercise 1.2

Print the table of integer 9 using a while loop:

§ References

1. <https://numpy.org/>
2. <https://scikit-learn.org/>
3. <https://matplotlib.org/>
4. <https://seaborn.pydata.org/index.html>
5. <https://pandas.pydata.org/>