Introduction to Data Science in Python by Appsilon

Quarto Example

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In this notebook we will explore an important function

$$f(x) = \frac{\sin(x)}{x}. \tag{1}$$

```
# Note code folding
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

```
plt.figure(dpi=300)
plt.plot(x, y, '.')
plt.show()
```

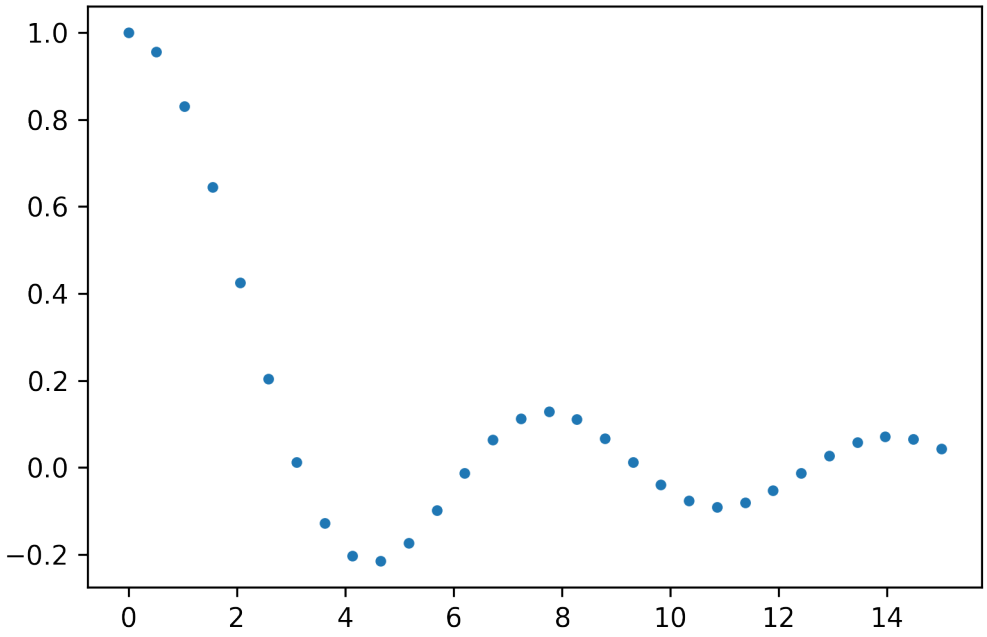

Figure 1: Plot of Equation 1

The most important insight of Equation 1 is presented at Figure 1. Table 1 contains used data.

Table 1: Experiment data

	x	y
0	0.000001	1.000000
1	0.517242	0.956003
2	1.034484	0.830945
3	1.551725	0.644327
4	2.068966	0.424588
5	2.586208	0.203878
6	3.103449	0.012288
7	3.620690	-0.127318
8	4.137932	-0.202876
9	4.655173	-0.214463
10	5.172414	-0.173235
11	5.689656	-0.098300
12	6.206897	-0.012279
13	6.724138	0.063473
14	7.241380	0.112983

	x	y
15	7.758621	0.128303
16	8.275863	0.110239
17	8.793104	0.067155
18	9.310345	0.012264
19	9.827587	-0.039888
20	10.344828	-0.076911
21	10.862069	-0.091244
22	11.379311	-0.081488
23	11.896552	-0.052187
24	12.413793	-0.012243
25	12.931035	0.027580
26	13.448276	0.057402
27	13.965517	0.070553
28	14.482759	0.064965
29	15.000000	0.043353