Plotting

March 19, 2021

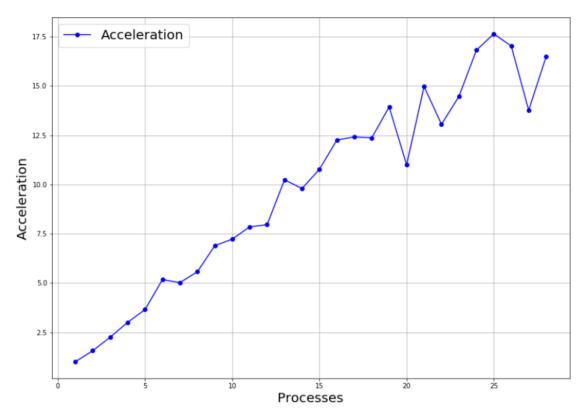
```
[1]: import matplotlib.pyplot as plt import pandas as pd
```

1 With Send

```
[16]: df = pd.read_csv("./result1.txt", header=None, sep=" ")
    df.rename(columns={0: 'Processes', 1: 'Result', 2: 'Time'}, inplace=True)
    df['Acceleration'] = df['Time'][0] / df['Time']
    print(df)
    plt.figure(figsize=(14, 10))
    plt.xlabel('Processes', fontsize=20)
    plt.ylabel('Acceleration', fontsize=20)
    plt.grid(True)
    plt.title('', fontsize=20)
    plt.plot(df['Processes'], df['Acceleration'], 'ob-', label='Acceleration')
    plt.legend(fontsize=20, loc='best')
    plt.savefig('Acceleration.jpg')
    plt.show()
```

```
Processes
                Result
                         Time Acceleration
0
           1 3.141593 68.26
                                   1.000000
           2 3.141593 43.76
                                   1.559872
1
2
           3 3.141593
                        30.39
                                   2.246134
3
           4 3.141593 22.76
                                   2.999121
4
           5 3.141593
                       18.71
                                   3.648316
5
           6 3.141593
                       13.20
                                   5.171212
6
           7 3.141593 13.61
                                   5.015430
7
           8 3.141593 12.26
                                   5.567700
8
           9 3.141593
                        9.91
                                   6.887992
9
          10 3.141593
                        9.45
                                   7.223280
10
          11 3.141593
                         8.70
                                   7.845977
11
          12 3.141593
                        8.58
                                   7.955711
          13 3.141593
                         6.67
12
                                  10.233883
                         6.97
13
          14 3.141593
                                   9.793400
          15 3.141593
                         6.34
14
                                  10.766562
15
          16 3.141593
                         5.57
                                  12.254937
16
          17 3.141593
                        5.50
                                  12.410909
```

```
18 3.141593
                          5.52
                                    12.365942
17
18
           19 3.141593
                          4.90
                                    13.930612
19
           20 3.141593
                          6.21
                                    10.991948
20
           21 3.141593
                          4.56
                                    14.969298
           22 3.141593
                          5.23
                                    13.051625
21
22
                          4.72
           23 3.141593
                                    14.461864
                          4.06
23
           24 3.141593
                                    16.812808
                          3.87
                                    17.638243
24
           25
               3.141593
25
           26 3.141593
                          4.01
                                    17.022444
26
           27
               3.141593
                          4.96
                                    13.762097
27
               3.141593
                           4.14
                                    16.487923
           28
```



2 With Bsend

```
[17]: df = pd.read_csv("./result2.txt", header=None, sep=" ")
    df.rename(columns={0: 'Processes', 1: 'Result', 2: 'Time'}, inplace=True)
    df['Acceleration'] = df['Time'][0] / df['Time']
    print(df)
    plt.figure(figsize=(14, 10))
    plt.xlabel('Processes', fontsize=20)
    plt.ylabel('Acceleration', fontsize=20)
```

```
plt.grid(True)
plt.title('', fontsize=20)
plt.plot(df['Processes'], df['Acceleration'], 'ob-', label='Acceleration')
plt.legend(fontsize=20, loc='best')
plt.savefig('Acceleration.jpg')
plt.show()
```

Processes	Result	Time	Acceleration
1	3.141593	90.86	1.000000
2	3.141593	30.50	2.979016
3	3.141593	30.39	2.989799
4	3.141593	23.01	3.948718
5	3.141593	13.91	6.531991
6	3.141593	16.40	5.540244
7	3.141593	14.04	6.471510
8	3.141593	10.78	8.428571
9	3.141593	10.74	8.459963
10	3.141593	10.34	8.787234
11	3.141593	8.75	10.384000
12	3.141593	7.96	11.414573
13	3.141593	7.49	12.130841
14	3.141593	7.06	12.869688
15	3.141593	6.53	13.914242
16	3.141593	6.14	14.798046
17	3.141593	6.01	15.118136
18	3.141593	5.33	17.046904
19	3.141593	5.02	18.099602
20	3.141593	4.74	19.168776
21	3.141593	4.50	20.191111
22	3.141593	3.99	22.771930
23	3.141593	4.09	22.215159
24	3.141593	3.92	23.178571
25	3.141593	4.69	19.373134
26	3.141593	3.76	24.164894
27	3.141593	3.75	24.229333
28	3.141593	3.54	25.666667
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	1 3.141593 2 3.141593 3 3.141593 4 3.141593 5 3.141593 6 3.141593 9 3.141593 10 3.141593 11 3.141593 12 3.141593 13 3.141593 14 3.141593 15 3.141593 16 3.141593 17 3.141593 18 3.141593 19 3.141593 20 3.141593 21 3.141593 22 3.141593 23 3.141593 24 3.141593 25 3.141593 26 3.141593 27 3.141593	1 3.141593 90.86 2 3.141593 30.50 3 3.141593 30.39 4 3.141593 13.91 6 3.141593 16.40 7 3.141593 14.04 8 3.141593 10.78 9 3.141593 10.74 10 3.141593 10.34 11 3.141593 7.96 13 3.141593 7.49 14 3.141593 7.06 15 3.141593 6.53 16 3.141593 6.01 18 3.141593 5.02 20 3.141593 5.02 20 3.141593 4.74 21 3.141593 4.50 22 3.141593 3.99 23 3.141593 3.92 25 3.141593 4.69 26 3.141593 3.76 27 3.141593 3.75

