

# Untitled

February 24, 2018

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In [10]: import matplotlib.pyplot as plt
import numpy as np

" =1, 2, 4, 8, 16    N=10000000 m=10000  "

P = np.array([1, 2, 4, 8, 16])
time_merge_par_sort = np.array([1.577029, 0.816759, 0.816667, 0.824645, 0.836313])
time_qsort = np.array([1.437678, 1.450853, 1.470520, 1.445088, 1.434371])

S = time_merge_par_sort[0] / time_merge_par_sort
E = S / P

plt.figure(figsize=(14, 8))
plt.xlabel('$P$ - merge sort')
plt.ylabel('$T$ - ')
plt.title('$T(P)$', size = 17)

plt.plot(P, time_merge_par_sort, '.-', label = 'mergesort time', color = 'green')
plt.plot(P, time_qsort, '.-', label = 'qsort time', color = 'black')
plt.legend()
plt.show()

plt.figure(figsize=(14, 8))
plt.xlabel('P - ')
plt.ylabel('S - ')
plt.title('S(P)', size = 17)

plt.plot(P, S, label = 'S', color = 'green')
plt.show()

plt.figure(figsize=(14, 8))
plt.xlabel('P - ')
plt.ylabel('E - ')
plt.title('E(P)', size = 17)
```

```
plt.plot(P, E, label = 'E', color = 'green')
plt.show()
```



