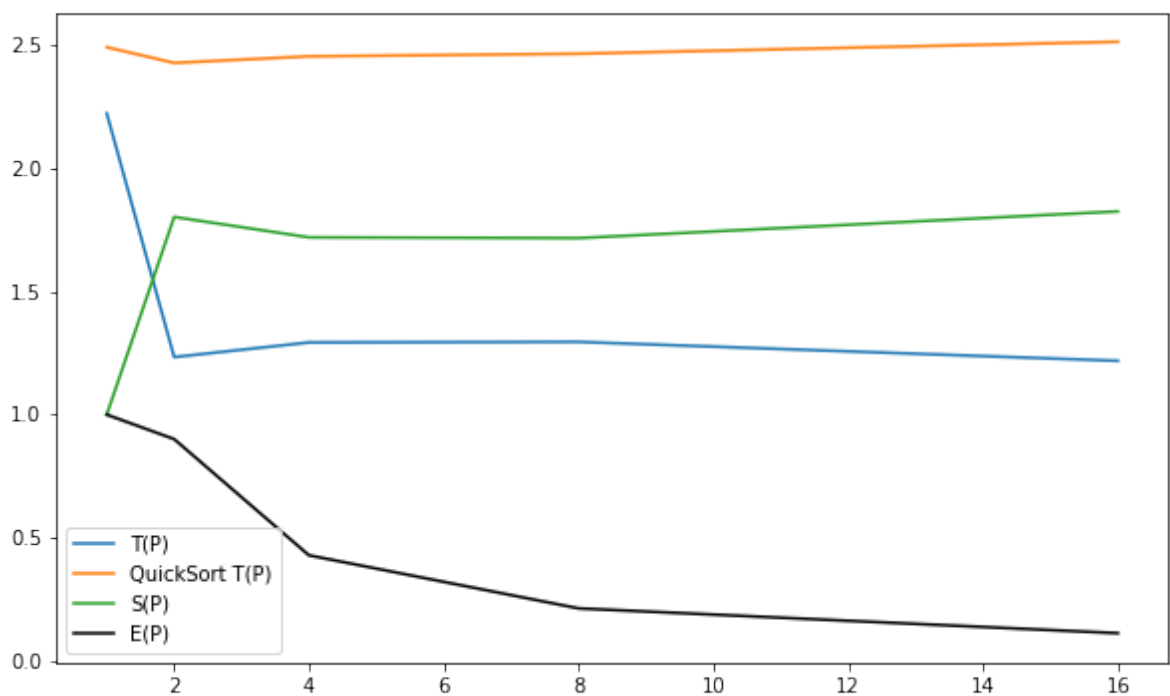```
In [5]: import numpy as np
         import matplotlib.pyplot as plt
         %matplotlib inline
```

```
In [23]:  stats = open("stats.txt", 'r')
          data = list(map(lambda elem: elem.split(), stats.readlines()))
          n = int(data[0][1])
          m = int(data[0][2])
          tests = len(data)
          ps = [int(data[i][3]) for i in range(tests)]
          times = [float(data[i][0][:-1]) for i in range(tests)]

          qsort_stats = open("qsort_stats.txt", 'r')
          qsort_data = list(map(lambda elem: elem.split(), qsort_stats.readli
          nes()))
          qtimes = [float(qsort_data[i][0][:-1]) for i in range(tests)]

          sp = np.ones(tests) * times[0] / np.array(times)
          ep = sp / np.array(ps)
```

```
In [27]:  plt.figure(figsize=(10, 6))
          plt.plot(ps, times, label="T(P)")
          plt.plot(ps, qtimes, label="QuickSort T(P)")
          plt.plot(ps, sp, label="S(P)")
          plt.plot(ps, ep, label="E(P)", color='black')
          plt.legend()
          plt.show()
```



```
In [ ]:
```