Operation System - Project 2
Threads
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Without using semaphore and mutex:
Result:
Segmentation fault / can’t write to same file when working together.

Using only semaphore:

```
1 salam in 1 line 1 . duration: 0.001422
2 semaphore in 1 line 4 . duration: 0.001737
3 ma in 3 line 1 . duration: 0.002584
4 proje in 3 line 1 . duration: 0.003111
5 proje in 2 line 1 . duration: 0.003612
6 motor in 2 line 2 . duration: 0.003785
```

Using only mutex:

```
1 salam in 1 line 1 . duration: 0.001359
2 semaphore in 1 line 4 . duration: 0.001735
3 ma in 3 line 1 . duration: 0.003575
4 proje in 3 line 1 . duration: 0.003932
5 proje in 2 line 1 . duration: 0.004282
6 motor in 2 line 2 . duration: 0.004474
```

With bigger input:

```
 1 salam in 1 line 1 . duration: 0.001919
 2 semaphore in 1 line 4 . duration: 0.002216
 3 ma in 3 line 1 . duration: 0.002806
 4 proje in 3 line 1 . duration: 0.003009
 5 am in 3 line 7 . duration: 0.003619
 6 throw in 4 line 8 . duration: 0.003705
 7 see in 4 line 10 . duration: 0.004146
 8 proje in 2 line 1 . duration: 0.004437
 9 motor in 2 line 2 . duration: 0.004672
10 children in 2 line 10 . duration: 0.004863
```

As we see the longer input is , the later first thread is started. But diffrence between threads is not that much, because our job is divided between threads.
But its important to know that using semaphore makes our program faster.