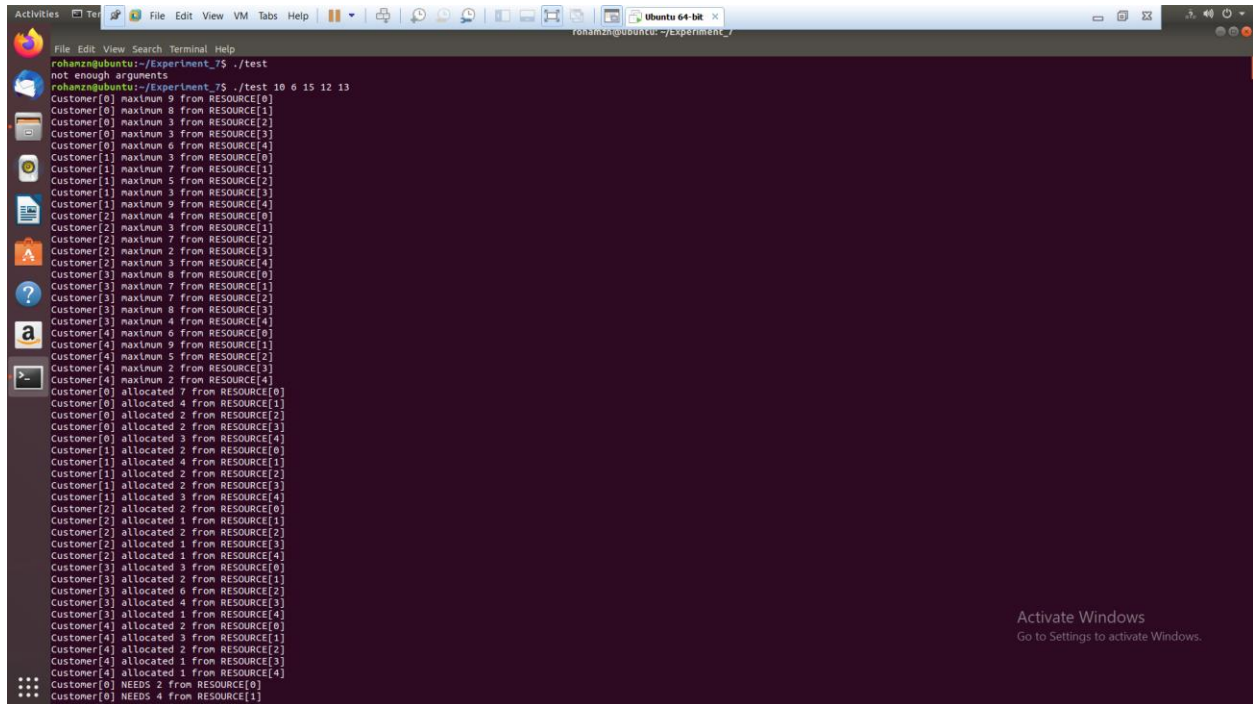


# آزمایش هفتم سیستم عامل



```
rohanzangibuntu:~/.Experiment_75 ./test
not enough arguments
rohanzangibuntu:~/.Experiment_75 ./test 10 6 15 12 13
Customer[0] maximum 9 from RESOURCE[0]
Customer[0] maximum 8 from RESOURCE[1]
Customer[0] maximum 3 from RESOURCE[2]
Customer[0] maximum 3 from RESOURCE[3]
Customer[0] maximum 6 from RESOURCE[4]
Customer[1] maximum 3 from RESOURCE[0]
Customer[1] maximum 7 from RESOURCE[1]
Customer[1] maximum 5 from RESOURCE[2]
Customer[1] maximum 3 from RESOURCE[3]
Customer[1] maximum 9 from RESOURCE[4]
Customer[2] maximum 4 from RESOURCE[0]
Customer[2] maximum 3 from RESOURCE[1]
Customer[2] maximum 7 from RESOURCE[2]
Customer[2] maximum 2 from RESOURCE[3]
Customer[2] maximum 3 from RESOURCE[4]
Customer[3] maximum 8 from RESOURCE[0]
Customer[3] maximum 7 from RESOURCE[1]
Customer[3] maximum 8 from RESOURCE[2]
Customer[3] maximum 4 from RESOURCE[3]
Customer[3] maximum 6 from RESOURCE[4]
Customer[4] maximum 9 from RESOURCE[0]
Customer[4] maximum 5 from RESOURCE[1]
Customer[4] maximum 2 from RESOURCE[2]
Customer[4] maximum 2 from RESOURCE[3]
Customer[0] allocated 7 from RESOURCE[0]
Customer[0] allocated 4 from RESOURCE[1]
Customer[0] allocated 2 from RESOURCE[2]
Customer[0] allocated 2 from RESOURCE[3]
Customer[0] allocated 3 from RESOURCE[4]
Customer[1] allocated 2 from RESOURCE[0]
Customer[1] allocated 4 from RESOURCE[1]
Customer[1] allocated 2 from RESOURCE[2]
Customer[1] allocated 3 from RESOURCE[3]
Customer[1] allocated 1 from RESOURCE[4]
Customer[2] allocated 2 from RESOURCE[0]
Customer[2] allocated 1 from RESOURCE[1]
Customer[2] allocated 2 from RESOURCE[2]
Customer[2] allocated 1 from RESOURCE[3]
Customer[2] allocated 1 from RESOURCE[4]
Customer[3] allocated 3 from RESOURCE[0]
Customer[3] allocated 2 from RESOURCE[1]
Customer[3] allocated 6 from RESOURCE[2]
Customer[3] allocated 4 from RESOURCE[3]
Customer[3] allocated 1 from RESOURCE[4]
Customer[4] allocated 2 from RESOURCE[0]
Customer[4] allocated 1 from RESOURCE[1]
Customer[4] allocated 2 from RESOURCE[2]
Customer[4] allocated 1 from RESOURCE[3]
Customer[4] allocated 1 from RESOURCE[4]
Customer[0] NEEDS 2 from RESOURCE[0]
Customer[0] NEEDS 4 from RESOURCE[1]
```

Maximum و Allocation به صورت رندم انتخاب می شوند.

```
Customer[3] NEEDS 3 from RESOURCE[4]
Customer[4] NEEDS 4 from RESOURCE[0]
Customer[4] NEEDS 6 from RESOURCE[1]
Customer[4] NEEDS 3 from RESOURCE[2]
Customer[4] NEEDS 1 from RESOURCE[3]
Customer[4] NEEDS 1 from RESOURCE[4]
Customer[0] is WAITING in line for resource [0]
Customer[0] is requesting 2 amount of resource[0]
Customer[0] is WAITING in the line for releasing allocation[0]
Customer[0] is releasing allocation[0]
Customer[0] is DONE releasing allocation[0]
Customer[0] is DONE with his request[0]=2
Customer[0] is WAITING in line for resource [1]
Customer[0] is requesting 1 amount of resource[1]
Customer[0] is WAITING in the line for releasing allocation[0]
Customer[0] is releasing allocation[0]
Customer[0] is DONE releasing allocation[0]
Customer[0] is DONE with his request[1]=1
ERROR: customer[0],request[2]=4 was too ambitious!
Customer[0] is WAITING in line for resource [3]
Customer[0] is requesting 1 amount of resource[3]
Customer[0] is WAITING in the line for releasing allocation[0]
Customer[0] is releasing allocation[0]
Customer[0] is DONE releasing allocation[0]
Customer[0] is WAITING in the line for releasing allocation[3]
Customer[0] is releasing allocation[3]
Customer[0] is DONE releasing allocation[3]
Customer[0] is DONE with his request[3]=1
Customer[0] is WAITING in line for resource [4]
Customer[0] is requesting 1 amount of resource[4]
Customer[0] is WAITING in the line for releasing allocation[0]
Customer[0] is releasing allocation[0]
Customer[0] is DONE releasing allocation[0]
Customer[0] is WAITING in the line for releasing allocation[3]
Customer[0] is releasing allocation[3]
Customer[0] is DONE releasing allocation[3]
Customer[0] is DONE with his request[4]=1

-----
Customer[0] REQUESTS DONE
-----
Customer[2] is WAITING in line for resource [0]
Customer[2] is requesting 2 amount of resource[0]
Customer[2] is WAITING in the line for releasing allocation[0]
Customer[2] is releasing allocation[0]
Customer[2] is DONE releasing allocation[0]
Customer[2] is DONE with his request[0]=2
ERROR: customer[2],request[1]=3 was too ambitious!
Customer[2] is WAITING in line for resource [2]
Customer[2] is requesting 1 amount of resource[2]
Customer[2] is WAITING in the line for releasing allocation[0]
Customer[2] is releasing allocation[0]
Customer[2] is DONE releasing allocation[0]
Customer[2] is DONE with his request[2]=1
Customer[2] is WAITING in line for resource [3]
```

5 مشتری(نخ) به صورت موازی در صف بانک(lock) شروع به درخواست وام می کنند.

در هر مرحله چک امنیتی می شود تا به deadlock نخوریم.

اگر پس از مدتی بدون چاره به deadlock بخوریم برنامه با پیام Safety fault تمام می شود ولی

اگر نیاز همه ی مشتری ها برطرف بشود، برنامه با پیام DONE تمام می شود.

در هر دور چرخش حلقه هر 5 مشتری درخواست های رندم به هر منبع می دهند و در صف

درخواست منتظر مشتری های دیگر می مانند.



تصویری از اتمام برنامه. همه ی درخواست ها رندوم هستند.