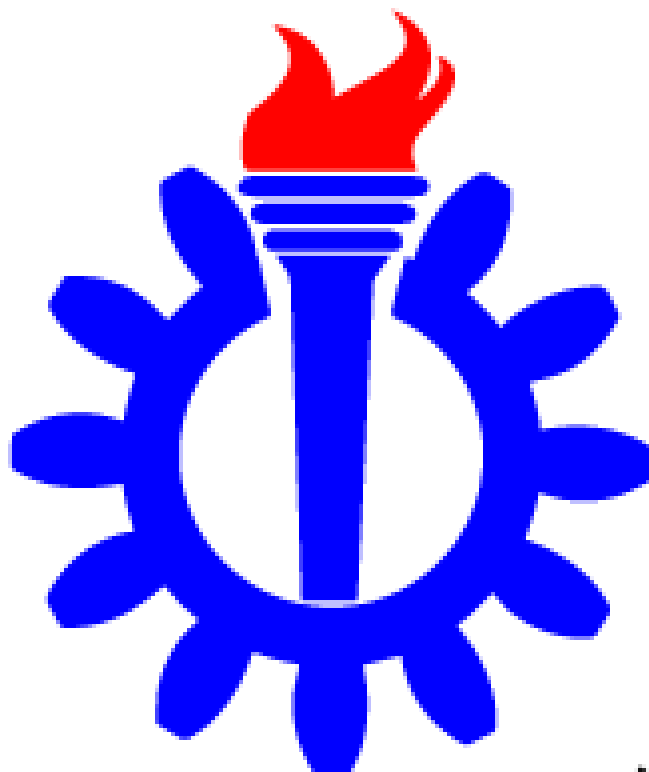بسم الله الرحمن رحیم

دانشگاه علم و صنعت ایران

محمد عرفان زارع زردینی

تمرین سیزدهم کلاس آز سیستم عامل

سوال1)

```
erfan@DESKTOP-URHUG83:/mnt/c/Users/ASUS/Desktop/cmpp$ gcc main.c -o main.out -pthread
erfan@DESKTOP-URHUG83:/mnt/c/Users/ASUS/Desktop/cmpp$ ./main.out
read by 0 count is 0
write by 1 count is 1
write by 3 count is 2
read by 3 count is 2
read by 4 count is 2
read by 5 count is 2
read by 6 count is 2
read by 7 count is 2
read by 8 count is 2
read by 9 count is 2
write by 0 count is 3
read by 1 count is 3
write by 2 count is 4
read by 2 count is 4
write by 5 count is 5
write by 4 count is 6
write by 6 count is 7
write by 7 count is 8
write by 8 count is 9
write by 9 count is 10
```

سوال2)

```
erfan@DESKTOP-URHUG83:/mnt/c/Users/Asus/Desktop/cmpp$ gcc main.c -o main.out -pthread
erfan@DESKTOP-URHUG83:/mnt/c/Users/Asus/Desktop/cmpp$ ./main.out
Philosopher 1 is thinking!
Philosopher 1 is eating using chopstick[0] and chopstick[1] :)
Philosopher 3 is thinking!
Philosopher 3 is eating using chopstick[2] and chopstick[3] :)
Philosopher 5 is thinking!
Philosopher 2 is thinking!
Philosopher 4 is thinking!
Philosopher 1 is thinking!
Philosopher 5 is eating using chopstick[4] and chopstick[5] :)
Philosopher 3 is thinking!
Philosopher 2 is eating using chopstick[1] and chopstick[2] :)
Philosopher 5 is thinking!
Philosopher 4 is eating using chopstick[3] and chopstick[4] :)
Philosopher 2 is thinking!
Philosopher 1 is eating using chopstick[0] and chopstick[1] :)
Philosopher 4 is thinking!
Philosopher 3 is eating using chopstick[2] and chopstick[3] :)
Philosopher 1 is thinking!
Philosopher 5 is eating using chopstick[4] and chopstick[5] :)
Philosopher 3 is thinking!
Philosopher 2 is eating using chopstick[1] and chopstick[2] :)
Philosopher 4 is eating using chopstick[3] and chopstick[4] :)
Philosopher 5 is thinking!
Philosopher 2 is thinking!
Philosopher 1 is eating using chopstick[0] and chopstick[1] :)
Philosopher 4 is thinking!
Philosopher 3 is eating using chopstick[2] and chopstick[3] :)
```

امکان به بن بست خوردن هم زمانی رخ میدهد که هر فیلسوف چنگال سمتی را(مثال همه راستشون را)بردارند و هیچکدام آن را زمین نگذارد یا یک فیلسوف چنگال هارا دستش نگه دارد و آزاد نکند.