

# What is a Semaphore?

- ▶ A locking mechanism
- ▶ An integer or ADT

<i>Atomic Operations</i>	
P()	V()
Wait()	Signal()
Down()	Up()
Decrement()	Increment()
...	...

```
1 down(S){  
2   while(S<=0);  
3   S--;  
4 }
```

```
1 up(S){  
2   S++;  
3 }
```

## More meaningful names:

- ▶ `increment_and_wake_a_waiting_process_if_any()`
- ▶ `decrement_and_block_if_the_result_is_negative()`