Race Condition Example

- **`counter++`** at machine code level could be implemented as

```
register1 = counter
register1 = register1 + 1
counter = register1
```

- **`counter--`** at machine code level could be implemented as

```
register2 = counter
register2 = register2 - 1
counter = register2
```

- Consider this execution interleaving at machine code level, with "counter = 5" initially:

S0: producer executes	`register1 = counter`	{register1 = 5}
S1: producer executes	`register1 = register1 + 1`	{register1 = 6}
S2: consumer executes	`register2 = counter`	{register2 = 5}
S3: consumer executes	`register2 = register2 - 1`	{register2 = 4}
S4: producer executes	`counter = register1`	{counter = 6 }
S5: consumer executes	`counter = register2`	{counter = 4}

(consumer has overwritten result of producer!)

See code examples: `AccountWithoutSync.java`, `RaceCondition.cpp`