

# Non-deterministic execution

Execution scenario #1

```
LOAD X
INCR
STORE X
LOAD X
DECR
STORE X
```

➡ X is equal to 0

Execution scenario #2

```
LOAD X
LOAD X
INCR
DECR
STORE X
STORE X
```

➡ X is equal to -1

Execution scenario #3

```
LOAD X
LOAD X
INCR
DECR
STORE X
STORE X
```

➡ X is equal to 1

... and many other possible scenarios with the outcome of x being equal to either 0, -1 or 1

# Race-condition problem

The system behaviours depends on the sequence or timing of events that is non-deterministic

- Not desirable in most cases (hard to catch bug)