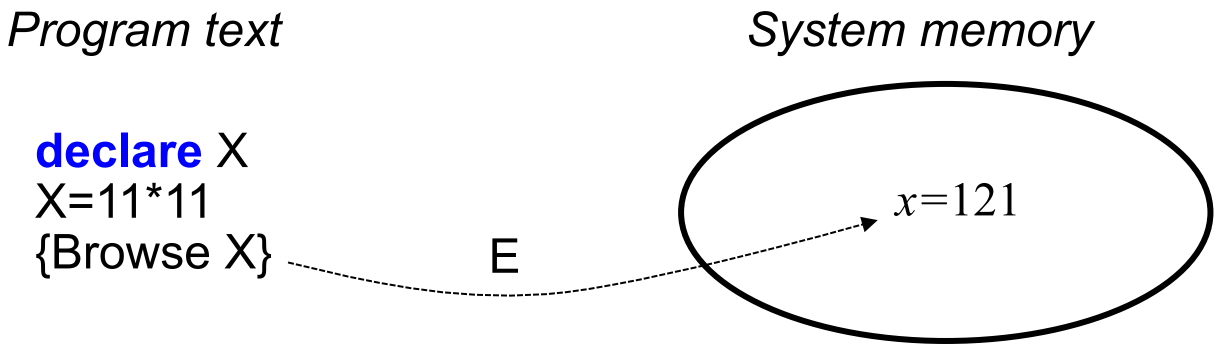
Assignment



Program text

System memory

```
declare X
X=11*11
{Browse X}
```

E

x=121

- The assignment instruction X=121 binds the variable x to the value 121

Single assignment

- A variable can only be bound to one value
  - It is called a single-assignment variable
  - Why? Because we are in the functional paradigm!

- Incompatible assignment: signals an error

  X = 122

- Compatible assignment: accepted

  X = 121

Why single assignment?

- Why do we restrict variables to be bound to one value?
  - It seems like a big handicap, not being able to assign again
- We do it because it gives advantages!
  - It's like following a law. Why is it a good idea to respect traffic rules? Because (among other things) it reduces the chance of having an accident.
- If we could assign more than once, we could break a correct program
  - But how can we program without multiple assignment? Actually, it's easy, as we will see.