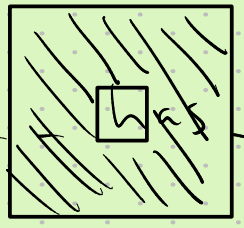
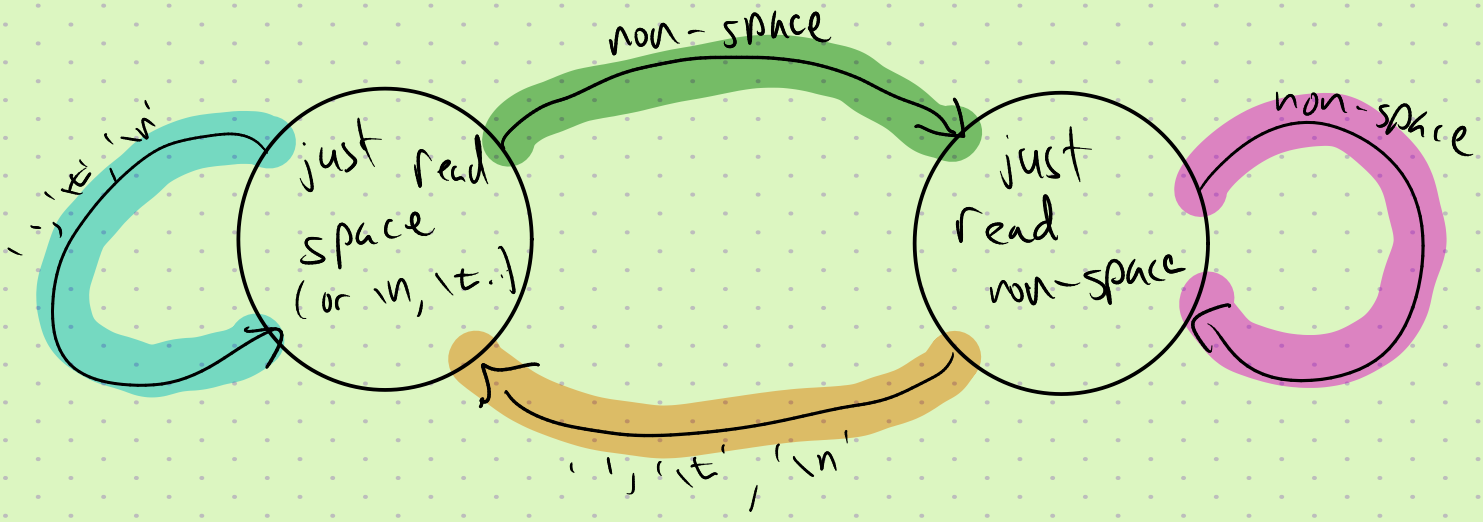
Continuing from last time: FSMs (finite state machines)

Example: counting words (while examining one character at a time)

this_  four__ words.

We want to keep just enough contextual info to be able to interpret the next character (beginning of word, or not?) We'll keep track of context in a diagram (state machine)



this___has_four__words.

found new word...

How to program it?

Need the following:

① way to keep track of where the token is in the diagram.

- could use an integer variable (assign each state a unique number)
- moving the token? just assign a new value to this variable

② Encode/handle all the arrows.

- have a case for each state, and within that, a condition for each arrow leaving that state.

```
if(justreadspace) {
    if(c != ' ' && c != '\t' && c != '\n'){
        // top arrow of diagram
        count++; // count = # words found
        justreadspace = false;
    } else {
        // nothing to do...
    }
```

```
} else {
    if (c != ' ' && c != '\t' && c != '\n') {
        // nothing to do if just counting words...
    } else {
        justreadspace = true;
    }
```

More interesting example: read C++ source and figure out if current character is part of a comment (// ... or /* ... */)