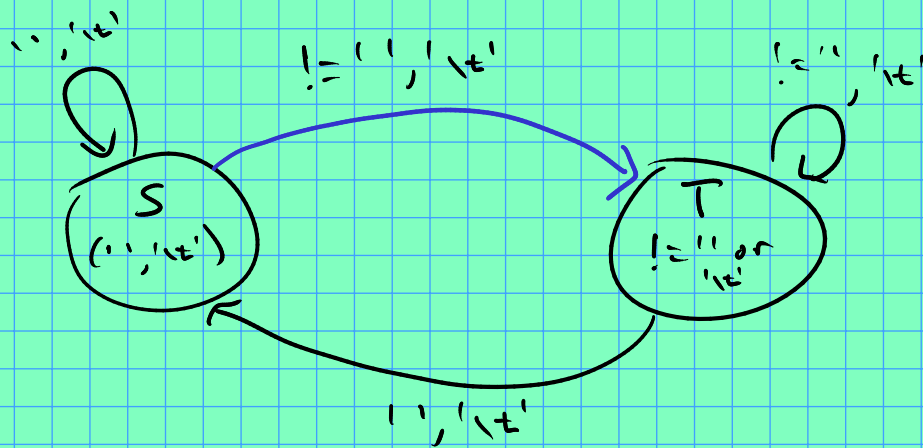


Problem: count words in a string.



Idea: if we just count how many times we traverse the **blue arrow**, we'll have a count of the words.

How to represent in C/C++?

For the information of which state we are in (where the pebble is located), we only need a boolean as there are only two possibilities:

```
int countWords(const string& str)
{
    bool space = true; // start in S
    int count = 0;
    for (int i = 0; i < str.length(); i++) {
        if (space) {
            if (str[i] != ' ' && str[i] != '\t') {
                space = false; // move pebble to T
                count++;
            }
        }
    }
}
```

```
} else { // pebble in T
    if(str[i] == ' ' || str[i] == '\t') {
        space = true;
        // move pebble back to S
    }
}
return count;
} // end function.
```