Table-driven implementation

DFA for IF and ID

	..	a-e	f	g-h	i	j-z	..	final	kind
0								true	ERROR
1	0	4	4	4	2,4	4	0	false	
2,4	0	4	3,4	4	4	4	0	true	ID
3,4	0	4	4	4	4	4	0	true	IF
4	0	4	4	4	4	4	0	true	ID

Scanner with longest match

```
class Scanner { ...
  Token next() {
  int state = 1, lastFinalState = 0;
  int lastFinalString = "":
  StringBuilder builder = new StringBuilder();
  while(state!=0) {
    char ch = reader.read();
    builder.append(ch);
    state = edeges[state][ch];
    if(isFinal[state]) {
    lastFinalState = state;
    lastFinalString = builder.toString();
    }
  }
  reader.unread( ... ); //unused characters
  return new Token(kind[lastFinalState], lastFinalString);
  }
```


Scanner (sketch)

```
class Scanner {       //no:
  PushbackReader reader;  //longest match
  boolean isFinal [ ];  //eof
  int edges [ ] [ ];    //whitespace
  int kind [ ];       //token strings
  Token next() {
  int state = 1;
  while(!isFinal[state]) {
    char ch = reader.read();
    state = edeges[state][ch];
  }
  return new Token(kind[state]);
  }
}
```