

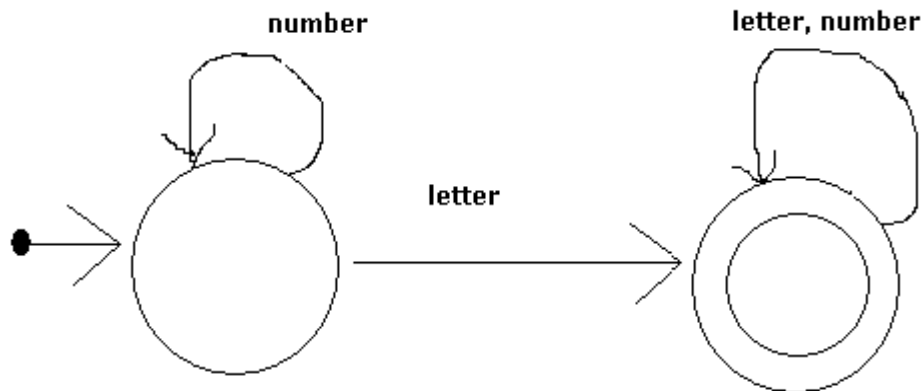
3.1

Identifier $\rightarrow a \mid \dots \mid Z$

Identifier $\rightarrow a \mid \dots \mid Z \mid 0 \mid \dots \mid 9$

Float $\rightarrow 0 \mid \dots \mid 9 \mid . \mid 0 \mid \dots \mid 9$

3.3



3.5

Since a DFSA has no “memory”, there is no way to count the number of a's which occur, and thus, no way to verify that the same number of b's occur. The best we can guarantee with a DFSA is a language of the form $\{a^n b^m \mid n, m \geq 1\}$.

3.8

1. Test every output to see that it is either a reserved word or some other symbol in the language. This will check that the only output is tokens.
2. Test the “look ahead”/“look back” feature by checking, for example, that the equality operator “==” is not output as two separate assignment operators “=”.