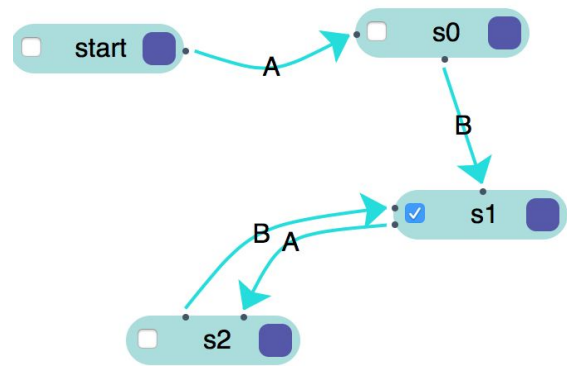


Automaton exercises

An **automaton** is a machine that tests whether a “string” of text has a certain pattern or not. For example the automaton shown at right accepts the strings AB, ABAB, ABABAB, and so on, and doesn’t accept any other strings.

Build your own automaton at:
<http://automatonsimulator.com>



Can you make an automaton that does each of the following special things?

1. Accepts the strings that start with AB
2. Accepts the string that is your first name
3. Accepts only the strings AB, AAB, AAAB, AAAAB, AAAAAAB, etc
4. Accepts only the string that is your first name, and the string that is your last name
5. Accepts only the strings with A only, with an odd number of A's
6. Accepts only the strings with A only, with an even number of A's
7. Accepts only the strings with A's and B's, with an odd number of A's and an even number of B's
8. Rejects only the string ABCD, and accepts all other strings with the letters A, B, C, and D
9. Accepts the strings that have the same number of A's and B's

What other challenges can you think of?