

1. Draw a DFA that accepts all strings over $\{a, b\}$ that have at least three a 's [1].
2. Draw a DFA that accepts all strings over $\{a, b\}$ that have at least two b 's [1].
3. Draw a DFA that accepts all strings over $\{a, b\}$ that have exactly two a 's [1].
4. Draw a DFA that accepts all strings over $\{a, b\}$ that have an odd number of a 's [1].
5. Draw a DFA that accepts all strings over $\{a, b\}$ that have at least three a 's and at least two b 's [1].
6. Define all of the above automata.

References

- [1] Michael Sipser. *Introduction to the Theory of Computation*. International Thomson Publishing, 3rd edition, 1996.