Prefix and Postfix Notation

Convert from prefix to infix notation. Draw a tree for each.

+ * A B / C D
/ * A + B C D
* A + B / C D
^ -> A B ~ v C D

Convert from postfix to infix notation. Draw a tree for each.

A B * C D / +
x y ^ 5 z * / 10 +
x y + z x / / w v - *

Convert from infix to prefix and to postfix. Draw a tree for each.

~(A -> B) v (C ^ D)
~(A -> B) v (C ^ D) -> ~E
((A * B) ^ 2) + ((8 - A) / 2)
8.1 Finite state machines

return your disk as requested.
disks or hardcopy to either of us. We will be happy to send
extracting machined (the reader may build. Please send
clean solutions to any of these exercises or other
The authors would enjoy getting copies of particular

Additional Exercises and Projects
accepts all and only those strings that in other words, there is no finite state machine that accepts numbers of A, B, and C, is not a regular language. It is interesting because the set of strings that contain the wordABBABA is the same as the set of strings that contain ABBABABA. This is because ABBBABABA is a word that is not accepted by the finite state machine. Therefore, the set of strings that contain the word ABBABABA is the same as the set of strings that contain ABBBABABA. This is because ABBBABABA is a word that is not accepted by the finite state machine.

Exercises 4 (Counting 1's): A well-known trick for these

Exercise 2 (0-1-2 Cube) Design a one-way finite state machine with two states that count the number of 0's, 1's, and 2's in a string.

Exercise 3 (0-1-2 Cube) Design a one-way finite state machine that does not contain the string 0123. Design a one-way finite state machine that does not contain the string 0123.

The north height on the south height. By contrast, it should not be able to do this with a machine having a number of states that is too large. It is impossible to design a machine that can do this with a number of states that is too large.

Exercises 5 (Regular languages): Build a one-way finite state machine that checks to see if both the heights are off. If both the heights are off, then it should accept a string of 0, 1, and 2, and no other. If the string matches the description of a string that should be accepted, then it should accept the string. If the string does not match the description of a string that should be accepted, then it should reject the string.

Regular languages and finite state machines

4. The set of strings that do not contain all three letters

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Exercise 16. (Construction) Describe a model you to combine our three pre-described machines into one that recognizes the language of regular expressions.

Exercise 6. (Construction) Describe a model you to combine our three pre-described machines into one that recognizes the language of regular expressions.

Exercise 4. (Construction) Describe a model you to combine our three pre-described machines into one that recognizes the language of regular expressions.

Turing machines

Exercise 11. (Construct Simulation) Design a Turing machine that simulates the operation of a given Turing machine on a given input.

Exercise 12. (Construct Simulation) Design a Turing machine that simulates the operation of another Turing machine.

Exercise 13. (Construct Simulation) Design a Turing machine that simulates the operation of a third Turing machine.

Exercise 14. (Construct Simulation) Design a Turing machine that simulates the operation of a fourth Turing machine.

Exercise 15. (Construct Simulation) Design a Turing machine that simulates the operation of a fifth Turing machine.

Exercise 16. (Construct Simulation) Design a Turing machine that simulates the operation of a sixth Turing machine.

Exercise 17. (Construct Simulation) Design a Turing machine that simulates the operation of a seventh Turing machine.

Exercise 18. (Construct Simulation) Design a Turing machine that simulates the operation of an eighth Turing machine.

Exercise 19. (Construct Simulation) Design a Turing machine that simulates the operation of a ninth Turing machine.

Exercise 20. (Construct Simulation) Design a Turing machine that simulates the operation of a tenth Turing machine.

Additional Exercises and Problems
may be blank.)

Exercises 1-12

Exercise 12 (Decoding) Build a decoding machine.

Exercises 13-17 Build a decoding machine.

Exercises 18-19 Build a decoding machine.

Exercises 20-22 Build a decoding machine.