

CS 312 Work Assignment 2

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****Collaborated with Timothy Cohen****

1. Write

(a) $E \vdash x : \text{lessthan0}$
 $E \vdash x : e'$

(b) $(a+b)^*b^+a?a$

(c) $a^*(ba^*b)^*a^*$

(d) a^*b^*

2. Draw DFAs for the languages from Question 1 b-d. None of your DFAs may contain more than 4 states.

d

3. Give a one sentence description of the language recognized by this NFA. Write a regular expression for this language

This is any combo of 0 or 1 with at least 2 zeros.

$$(0+1)^*0((0+1)(0+1)(0+1))^*0(0+1)^*$$

4. $[\"-\"?][1-9]^+[0-9]^*|0$