

Discussion 6 Problems (Not Graded)

Read SmallC Formal Operational Semantics:

<https://github.com/anwarmamat/cmsc330spring18-public/blob/master/p3b/semantics.pdf>

Use the rules to show:

•; (1 + 2) * 3 → 9

•[x |→ true]; !(x == true) → false

•; int x; x = 2 → •[x |→ 2]

•[i |→ 0]; while (i < 1) (i = i + 1) → •[i |→ 1]

Create a FA over $\Sigma = \{0, 1\}$ that:

Accepts strings that start w/ 0.

(Accepts: "0", "010". Rejects: "", "100".)

Accepts strings w/ all 0s or all 1s.

(Accepts: "000", "111". Rejects: "", "010".)

Accepts strings w/ the substring "010".

(Accepts: "010", "01010". Rejects: "00", "0110".)

Accepts strings that have a 0 mod 3 0s and 0 mod 3 1s.

(Accepts: "", "000", "000000111". Rejects: "0", "0100".)