Problem 1: In the box below, show the decorated finite state automaton for recognizing integer constant (INTCONST) tokens, and computing the numerical value of the corresponding lexeme, when the constant can be specified as either a decimal (base-10) constant or a hexadecimal (base-16) constant. Thus, an integer constant token is given by either of the following patterns:

1. a nonempty sequence of decimal digits (0, 1, ..., 9); the value of the constant is computed in base 10; or
2. a sequence beginning with the characters 0x followed by a nonempty sequence of digits 0...9 and letters a...f; the value of the constant is computed in base 16.
Problem 2. Use the gff tool on the grammar G0 and use the output to answer the following questions:

a. Which nonterminals have `kwINT` in their FIRST sets?

b. Which nonterminals have `kwINT` in their FOLLOW sets?

c. Which nonterminals have `RBRACE` in their FOLLOW sets?