32-bit Integer, Octal and Hexadecimal Lexical Analyser in Golang

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For this project I tried to use finite state techniques to create a lexical analyzer. The analyze function performs the process of iterating through all the characters in the input. While the nextState function uses the previous state and the current character to determine what the next state should be.

One difficulty I ran into was an unfamiliarity with the language. I learned a lot about Golang strings, slices, data types, structures, formatting, and lots more. I think this program is fairly simple, however it was a great learning experience for me.

The transition table I used is below, along with the state diagram.

	Oct (0-7)	Dec (8-9)	Hex (a-f not b)	Sign +/-	B	H	End
1	2	3	4	5	4		
2	2	3	4		7	6	“Int”
3	3	3	4		4	6	“Int”
4	4	4	4		4	6	
5	3	3					
6							“Hex”
7	4	4	4		4	6	“Oct”