

[http://en.wikipedia.org/wiki/Linear\\_temporal\\_logic](http://en.wikipedia.org/wiki/Linear_temporal_logic)

equivalent

[http://en.wikipedia.org/wiki/Omega-regular\\_language](http://en.wikipedia.org/wiki/Omega-regular_language)

$\omega$ -regular Languages

equivalent

[http://en.wikipedia.org/wiki/Omega\\_automaton](http://en.wikipedia.org/wiki/Omega_automaton)

## $\omega$ -Automata

	Deter- ministic	Non-deter- ministic
Büchi		✓
Muller	✓	✓
Rabin	✓	✓
Streett	✓	✓
Parity	✓	✓

A: regular language  
 B, C:  $\omega$ -regular language  
 L is a  $\omega$ -regular language if

- $L = A^\omega$
- $L = AB$
- $L = BuC$

[http://en.wikipedia.org/wiki/Omega-regular\\_language](http://en.wikipedia.org/wiki/Omega-regular_language)

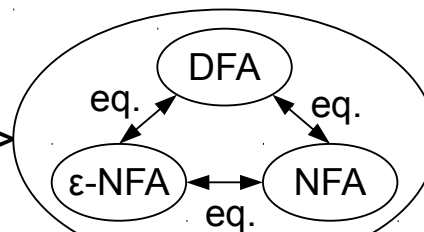
## Chomsky Hierarchy

Grammar Type	Language Class	Automata Class
0 (unrestricted)	Recursively enumerable	Turing Machines
1 (context-sensitive)	Context-sensitive	Linear bounded Turing machines
2 (context-free)	Context-free	Pushdown automata
3 Regular Grammars	Regular Languages	Finite State Automata

$\Leftrightarrow$

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Hopcroft (2001), p. 91 (105)

Regular Expressions