



Compilers

Regular Languages

- Lexical structure = token classes
- We must say what set of strings is in a token class
 - Use *regular languages*

- Single character
- Epsilon

- Union
- Concatenation
- Iteration

- **Def.** The *regular expressions over Σ* are the smallest set of expressions including

Regular Languages

Choose the regular languages that are equivalent to the given regular language: $(0 + 1)^*1(0 + 1)^*$

☐ $(01 + 11)^*(0 + 1)^*$

$$\Sigma = \{ 0, 1 \}$$

☐ $(0 + 1)^*(10 + 11 + 1)(0 + 1)^*$

☐ $(1 + 0)^*1(1 + 0)^*$

☐ $(0+ 1)^*(0 + 1)(0 + 1)^*$

- Regular expressions specify regular languages
- Five constructs
 - Two base cases
 - empty and 1-character strings
 - Three compound expressions
 - union, concatenation, iteration