

Properties of Context-free Languages

Context-free languages have some different properties than regular languages.

Closures

CFLs are closed under:

- union
- concatenation
- Kleene Star
- reversals

CFLs are NOT closed under:

- intersection
- complement

Undecidable Problems

We will discuss later what "undecidable" means, but as a preview, the following are undecidable with regard to context-free languages:

1. Is a given CFG G ambiguous?
2. Is a given CFL inherently ambiguous?
3. Is the intersection of two CFL's empty?
4. Are two CFL's the same?
5. Is a given CFL universal (equal to Σ^*)?