

Lecture #21: Chomsky Hierarchy I — Regular Languages

What Will Happen During the Lecture

Remember... You Had Homework!

Students were asked to have worked through a set of notes before this first lecture:

- Lecture Notes — “Chomsky Hierarchy I: Regular Languages”

Of course, you may attend the lecture presentation if you have not worked through this material ahead of time — but it will not be repeated for you during the lecture presentation.

Topic To Be Discussed

If time allows then each of the following activities, mentioned in the lecture presentation, will be carried out:

- A proof will be given (or, at least, sketched) that an example grammar, given in the preparatory reading, has the language that is claimed in these notes.
- A sketch of a proof will be given for “Claim #1” from the preparatory reading — which asserts that, for every language $L \subseteq \Sigma^*$ (for an alphabet Σ), L is the language of a right-regular grammar if and only if L is the language of a deterministic finite automaton — so that both of these characterizations can be used to define the **regular languages**.
- If there is time, various computational problems concerning regular languages will be discussed.