Lecture #13: First Undecidable and Unrecognizable Languages
What Will Happen During the Lecture

Remember... You Had Homework!

Students were asked to work through the following set of lecture notes before this lecture.

- Lecture Notes — "First Undecidable and Unrecognizable Languages".

As always, 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, and you might get a little bit lost, during the presentation, if you haven't worked through this.

Problems To Be Solved

One of the proofs in the lecture notes used a ***diagonalization argument***, in a rather complicated way, to show that a language (specifically, the language A_{TM}) is undecidable. During the lecture presentation it will be shown that the same proof technique can be used, in a somewhat simpler way, to prove the *existence* of a language that is unrecognizable (and that is, therefore, undecidable as well).