

Lecture #13: A Computable Total Function That is Not Primitive Recursive

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 — “A Computable Total Function That is Not Primitive Recursive”

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.

Problems To Be Solved

The notes ended with an introduction to one version of the Ackerman function, along with the claim that this has been shown not to be primitive recursive, because it grows too quickly.

During this presentation, a simpler unary function is presented that can also be shown to be computable total function that is similar, in some respects, the version of the Ackerman function, that can also be shown not to be primitive recursive, because it “grows too quickly”.

The proof of this is simple enough to be outlined during this meeting — and this is what will happen. The notion of “growing too quickly” will be made precise, and used as part of the argument.