Week Five

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Readings
This week please read **nothing new**, please remember you don't have to read sections marked with a double dangerous curve sign

This week we are focusing on some of the trickier portions of the macros section from last week. Specifically, we will be focusing on conditionals, and possibly a few of the other things on pg **209 & 213**.

Exercise 1 (Delimiting Arguments)
Now that you know how the `\proclaim` macro, on pg **202**, works, use a similar scheme to design a macro for putting a heading at the top of your papers that looks like the one at the top of this paper. If you want you can delimit the first argument with a period like the proclaim command, but the basic layout should be the same.

Exercise 2 (Registers)
This exercise references some earlier material from the section on **chapter 15** so you may want to review that chapter before trying this (specifically **pgs. 117–121** regarding registers). In this chapter there is a `\proclaim` function for making theorems, but usually theorems follow pretty specific rules when you are typesetting new ones, such that each one in a chapter is labeled: **chapter number.theorem number** like this: THEOREM 2.4 would indicate the fourth theorem in chapter 2. Write a macro that utilizes two registers **chapNo** and **theNo** such that every time you call `\theorem` it automatically numbers the theorem number and chapter number and typesets the rest of it as proclaim is defined on **pg. 202**. *(NOTE:It may behoove you to also make a* `\chapter` *macro as well that resets your theorem number and changes the chapter number.)*

Exercise 3 (Recursion and Conditionals)
In this exercise we are going to write a simple recursive macro. If you don't know what recursion is please go take a look at the wikipedia article on Recursion (http://en.wikipedia.org/wiki/Recursion). In this macro there should we are going to utilize two registers one to define the number at which we want to start the recursion and one to hold our total value. The purpose of this macro is to add all the number from our original number down to zero. So if we had our original register at 5 the output of our function should be 15. This function will have to use conditionals to prevent the recursion from going on infinitely and may need to use `\the` to expand the register in places that TEX doesn't expect a number.