Math 453, Spring 2008, Instructor: Pelsmajer
Assigned on Feb 23, revised on Feb 26.

(A) From Wilf (online edition), read Section 1.3, and then write up the work on p9 with all necessary details added... In particular, redo the part where $x/(1-x-x^2)$ is broken down so that r_+ & r_- don't appear so mysteriously... In particular:

Use the quadratic equation to find roots of, then factor $(1-x-x^2)$. (It will look different than Wilf's version). Then do partial fractions, etc., until you get a close formula for F_n (It will continue to look different unless you use the fact that $1/r_+$ is...? at some point.)

(B) Read Example 4, p37 in Wilf. Use the same approach (and/or what we did in class) to find a closed formula for $1+16+81+\ldots+n^4$.

Also read Examples 5 and 6.

Read the definition of Exponential Generating Function (any or multiple sources).

Read Examples 5.32,5.33, p324-325 in Roberts & Tesman.

Read Examples 2,3 p42-43 in Wilf, but stop halfway through p43.

Do #2(all but e) from p24 in Wilf.

That's it. So, it's mostly reading, and I really expect you to read it carefully! Come to class with specific/good questions if you get stuck.

Coming up soon:

Catalan Numbers

Stirling Numbers: the formula

Exponential Generating functions