

CO 330, LECTURE 14 SUMMARY

FALL 2017

SUMMARY

Nick talked to you today. He showed you the definition of a partition, the size of a partition (sum of parts, that is the number you are partitioning), the length of a partition (the number of parts), the Ferrers diagram or Young diagram, and the multiplicity vector.

Then you proved that the generating function for partitions is

$$\prod_{j=1}^{\infty} \frac{1}{1-x^j}$$

and thought about generalizations.

REFERENCES

This material is the beginning of chapter 9 in the course notes. Partitions connect to some interesting and deep mathematics. For example there is no closed form for the counting sequence of partitions. The famous mathematician Ramanujan did work on partitions. Check out the end notes to chapter 10 (after the chapter 10 exercises) in the course notes for some interesting history and references.