**Week 3B CS311 Mathematics Exercise [5pts]**

**Now that we have completed analysis tasks, I would like to revisit math necessary to comprehend the rest of the CS topics you will be encountering.**

**You write down their answers to the following questions. I do not want references to some mathematical theorem. I want your own easy to understand explanations that would make sense even to 8 year olds. Use pictures!**

**PRINT NAMES:**

1. **We have learned that Sum of K as K varies from 1 to N is 1+2+3+…+N = N(N+1) /2**

**Why do \*you\* think it is N(N+1) /2 ? Explain. (Hint: draw bar graphs within a rectangle)**

1. **We have learned that we think of N(N-1) /2 possible pairs when you have N elements.**

**Why do \*you\* think it is N(N-1) /2 ? Explain. (Hint: draw dots and pair them up with lines)**

1. **We have learned that there are A^N ways to assign one of A values to each of the N people.**

**Why do \*you\* think it is A^N? Explain. (Hint: draw a tree with A branches)**