CSC236 Fall 2016

Office Hour 01

About 15 students reached me during my office hours (W 2-4) on Week 01, a fruitful one. We (further) discussed the following topics:

- Tiling a 2^nx2^n **checkerboard** missing a square with L-shape tiles;
- **Invalid Proofs**: e.g. why the proof (by simple induction) for $2n \leq n^2+1$ $\forall n \in \mathbb{N}$, shown in class, was invalid; or exactly why the proof (by simple induction) for n non-parallel lines meet in a common point was invalid; a similar invalid proof is for n horses in a stable are all the same color (let's call it Example 6).
- The **Inductive Step of Example 1** (#of subsets)
- The **math notations** used in slides for modulus operation, divides, etc.
- Some concepts of **Chapter 0**
- **Proof by Cases**
- Use of **W.L.O.G**, when cases are very similar (i.e. equivalent, or almost identical)

Also,

- We talked about:
  - developing **new conjectures**, e.g. $3 | 2^n.2^n-1$ as well as whether we can map it to the checkerboard example
  - how to involve in **Interaction and Peer Instruction** and benefit multifold
  - how to do **teamwork** in assignments as well as in learning details of examples
  - how to **get passionate** in this course
- Some students had sweet discussions on **logic circuits**
- Some students enjoyed other **sweets** and **berries**