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 $2^n \times 2^n$ checkerboard** missing a square with L-shape tiles;
- **Invalid Proofs**: e.g. why the proof (by simple induction) for $2^n \leq n^2 + 1 \ \forall n \in \mathbb{N}$, 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. $3 \mid 2^n \cdot 2^n - 1$ 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**