Come get graded quiz

Announcements
  * Self grade & Reflection Due Wednesday (more in class)
  - Homework Discussion: TLDR: It's important. Make sure you know it now so no problems later.

Self Grade & Reflection

Proof Rubric:
  Validity: logic OK?
  Readability: Easy to understand?
  Concise: More complicated than needs to be?

Provide a point score for each category →

Sample self-grade Activity...

Also
  * Where to find solutions - CANVAS, "Files"
  * Writing style - proofs do not need to be word for word the same as mine
  * Reflection - see resources on website for worksheet
  * Timing - ~30 min (at most 1 hour)
... and now back to your regularly scheduled lesson...

To do computer science, need to write & talk about computer science — use language of math:

Very Precise!

Proofs ≈ 5 paragraph essay

We need to go back and learn how to write words, sentences, sets, statements

Sets

def: a set is an unordered collection of objects. (no repeats!)

ex: Let $S$ be the set of Middlebury computer science profs.

- Prof. Kimmel is in $S$
- Prof. Watson is not in $S$. 

Sets Page 2
Roster Notation: $A = \{0, 2, 5\}$ means "$A$ is the set containing the elements 0, 2, 5."

For sets "element" = "object"

$E$: $2 \in A$ means 2 is an element of A

$\notin$: Prof. Watson $\notin S$ means Prof. Watson is not an element of S.

$A = B$: sets contain exactly the same elements

Sets in Sets: $T = \{x, y, \{g, h\}, k\}$

An element of a set can be another set

Q: Is $g \in T$? Is $\{g, h\} \in T$?


Elements of $T$ are $x, y, \{g, h\}, k$

Also $\{x, y\} \notin T$
Famous Sets

\( \emptyset = \text{empty set} = \{\} \)

\( \mathbb{N} = \text{set of natural numbers} = \{0, 1, 2, 3, \ldots\} \)

\( \mathbb{Z} = \text{set of integers} = \{\ldots, -3, -2, -1, 0, 1, 2, 3, \ldots\} \)

\( \mathbb{R} = \text{set of real numbers} \)

\( \mathbb{Q} = \text{set of rational numbers} \)

**NOTE:** In Book of Proof, \( \mathbb{N} = \{1, 2, 3, 4, \ldots\} \)

Set Builder Notation

\( B = \{\text{blah} : \text{blerg}\} \) means "B is the set of all things of the form blah, such that blerg"

ex: \( E = \{2x : x \in \mathbb{Z}\} = \{-6, 0, 100, \ldots\} \)

\[\{x : x \text{ is even}\} \]

Notation:

\( 0 = \{x : x \text{ is odd}\} \)

\( 0 = \{x | x \text{ is odd}\} \)

\( \{x : x \text{ is odd}\} : \{x | x \text{ is odd}\} \) same meaning