CSE 191 Recitation

3/13/23 - 3/17/23 - Sets

Sets

Describe the following sets using roster or set builder notation:

1. The colors of the rainbow
2. The suits in a deck of cards
3. The people in this room that have blue eyes
4. Words that have an even number of letters and start with a vowel

Set Operations

Describe the following sets using roster or set builder notation:

1. $(\{A, B, C, D\} \cup \{1, 2, 3, 4\}) - \{x \mid x \text{ is an even integer}\}$
2. $\{1, 2, 3, 4, 5\} \cap \{2, 4, 6, 8, 10\}$
3. $\{1, 2, 3, 4, 5\} - \{2, 4, 6, 8, 10\}$
4. $\{1, 2, 3, 4, 5\} \oplus \{2, 4, 6, 8, 10\}$
5. $\overline{\{x \mid x \text{ is a TAs}\}}$ where the universal set is people in this room

Power Set

How many elements are in $\mathcal{P}(\{a,b,c\})$?

Compute $\mathcal{P}(\{a,b,c\})$?

Cartesian Product and Partitions

Let $\boldsymbol{V}$ = { A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K }

$\boldsymbol{S}$ = { Clubs, Diamonds, Hearts, Spades }

Describe $\boldsymbol{D} = \boldsymbol{V} \times \boldsymbol{S}$ using set builder notation.

What is $|\boldsymbol{D}|$?

Come up with a few ways to partition $\boldsymbol{D}$ and describe them with set notation