

0

$$x \in \mathcal{P}(x)$$

$$x+1 = x+1$$

$$\begin{aligned}
 & \{ \{ \} \\
 & \{2\}, \{3\}, \dots \\
 & \{2, 3\}, \{2, 5\}, \dots \\
 & \{2, 3, 5\}, \{2, 3, 7\}, \dots \\
 & \rightarrow \boxed{\{2, 3, 5, 7\}} \\
 & \}
 \end{aligned}$$

1

$$\subset \text{not all } =$$

$$\{x \mid x \neq 0 \wedge x \in \mathbb{R}\}$$

$$\subseteq \text{all } =$$

$$x \in \mathbb{R}^+ \wedge y \in \mathbb{Z}^+$$



$$\{\{3\}, \{13\}\}$$

$$\{\{3\}, \{23\}\}$$

$$\mathcal{P}(\{13\})$$

$$\cap$$

$$\mathcal{P}(\{23\})$$

$$\{1, 23\}$$

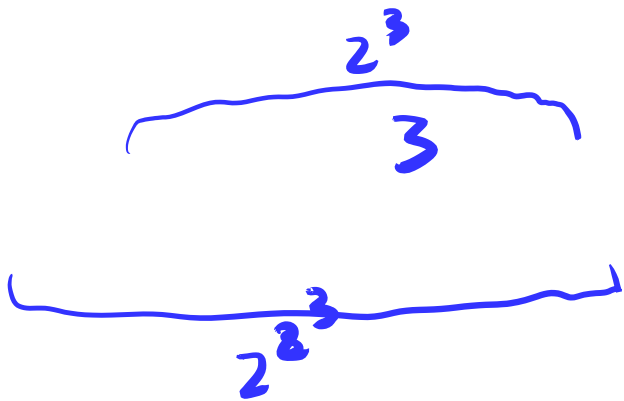
$$\{\{3\}\}$$

$$\{3\}, \{13\}, \{23\}, \{1, 23\}$$

$$\{\{3\}, \{23\}\}$$

$\{-1, 0, 1, 2\}$

$\{2, 4\}$



$$2^3 = 8$$

$$2^8 = 256$$

Proposition

Boolean Expression

→ $2 < 3$

true

list.isEmpty()

→ b

| True | False |
|------|-------|
| 1 | 0 |
| T | L |
| yes | no |
| T | F |
| ⋮ | ⋮ |

and

&&

&

logical
and



And

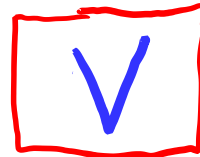


or

||

|

logical
or



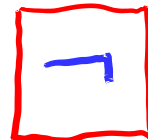
not

!

~

logical
not

*



\bar{P}

if



iff



\Leftrightarrow

xor



\oplus

| P | Q | $P \rightarrow Q$ |
|---|---|-------------------|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

| P | Q | $P \leftrightarrow Q$ | $P \oplus Q$ |
|---|---|-----------------------|--------------|
| 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 |
| 1 | 1 | 1 | 0 |

here Or
⊕ to go
Salt ✓ pepper

From NY and Chicago
^

Trinidad ✓ Tabasco

ask me no Q and I'll tell you no lies
→