Sets (Theory upto, Exercise 1.1)

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↳ In the mathematical language whether something is living or non-living in the universe we call it a 'object'

↓

well-defined

↙

Set

↙

Set is a collection of well defined objects.

Roster Form

→ Set টাকে ভেঙে লেখা

Set-Builder Form

→ Set এর property গুলোকে লিখে দেওয়া

ex,

$A = \{2, 4, 8, 16, 32\}$ ← Roster form

$A = \{x : x = 2^n \text{ and } n \in \mathbb{N} \text{ and } 1 \leq n \leq 5\}$

↑ set-Builder form

Empty Set

↳ যখন কোনো set -এ কোনোও element থাকে না তখন সেই set কে Empty set বা null set বলে

↳ এটাকে ϕ (bhi) বা $\{\}$ দিয়ে denote করা হয়...

$\mathbb{N}$ → Natural No.

⇒ $\mathbb{N} = \{1, 2, 3, 4, \ldots\}$

$\mathbb{Z}$ → Integer

⇒ $\mathbb{Z} = \{\ldots, -2, -1, 0, 1, 2, \ldots\}$

$\mathbb{R}$ → Real No.

⇒ All numbers wheter it is fraction or whole number is called real number...

$\mathbb{W}$ → Whole no.

⇒ $\mathbb{W} = \{0, 1, 2, 3, 4, \ldots\}$