Tuesday, 8 Oct 2024 8:30 PM

→ Definition: Graph: set of vertices (V) + set of edges (E) — but edges are pairs of vertices, so graph is a pair (V, E) — edges are unordered pairs of vertices

$G = (V, E)$

$V = \{1, 2, 3, 4, 5\}$

$E = \{\{1,2\}, \{1,3\}, \{2,3\}, \{2,4\}, \{3,4\}, \{4,5\}\}$

$\{1,2\}$ → edge

$\{1,2\} = \{2,1\}$

→ no order

→ no repeated

$\{1,1\}$ → edge

$\{1,1\} = \{1\}$

→ loop

$\{1,2,3\}$ → not edge

$\{1,2,3\} = \{1,2\}$

→ no repeated

$\{1,2,3\}$ → edge

$\{1,2,3\} = \{1,2\}$

→ no repeated

$G = (\{1,2,3\}, \{\{1,2\}, \{1,3\}, \{2,3\}\})$

→ simple graph

→ no loops

→ no repeated edges

→ no multiple edges

→ no loops

→ no repeated edges

→ no multiple edges

→ simple graph