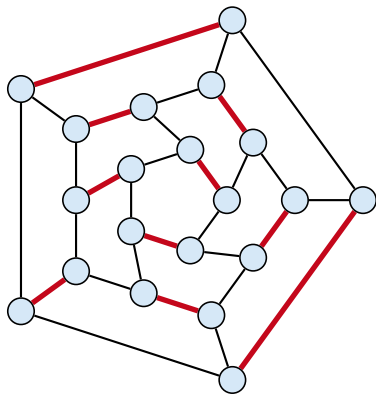


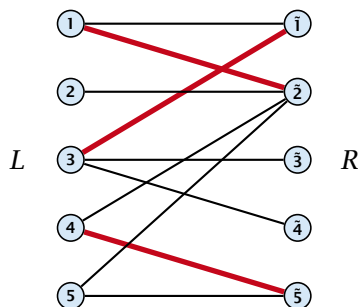
## Matching

- ▶ Input: undirected graph  $G = (V, E)$ .
- ▶  $M \subseteq E$  is a **matching** if each node appears in at most one edge in  $M$ .
- ▶ Maximum Matching: find a matching of maximum cardinality



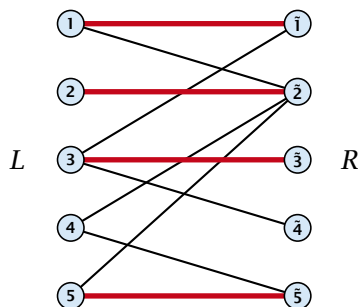
# Bipartite Matching

- ▶ Input: undirected, **bipartite** graph  $G = (L \uplus R, E)$ .
- ▶  $M \subseteq E$  is a **matching** if each node appears in at most one edge in  $M$ .
- ▶ Maximum Matching: find a matching of maximum cardinality



# Bipartite Matching

- ▶ Input: undirected, **bipartite** graph  $G = (L \uplus R, E)$ .
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- ▶ Maximum Matching: find a matching of maximum cardinality



# Bipartite Matching

- ▶ A matching  $M$  is **perfect** if it is of cardinality  $|M| = |V|/2$ .
- ▶ For a bipartite graph  $G = (L \uplus R, E)$  this means  $|M| = |L| = |R| = n$ .

