Graph Isomorphisms

lan Ludden

By the end of this lesson, you will be able to:

Define isomorphism.

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- Count the number of isomorphisms between two graphs.

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- Prove that two graphs are (not) isomorphic.

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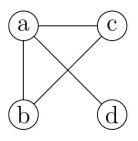
 Bijection between vertex sets of two graphs that preserves edge relationships

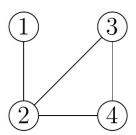
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- Think: rename vertices, or drag vertices around in drawing

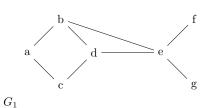
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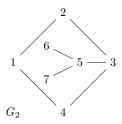
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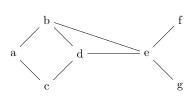


Counting isomorphisms



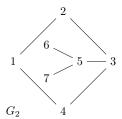


Counting isomorphisms



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• If isomorphic, just give a bijection (proving existential claim)

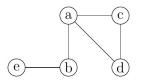
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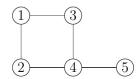
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Recap: Learning Objectives

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