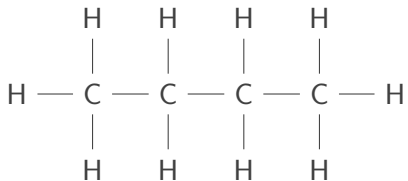


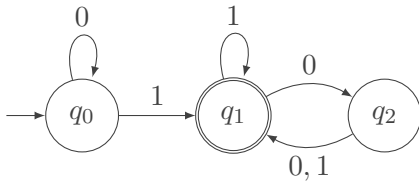
Graph labellings

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Example: vertex labelling

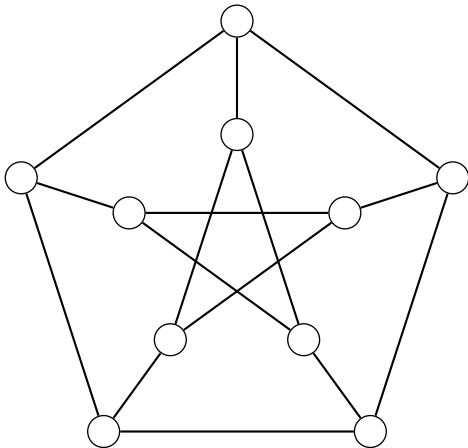


Example: edge labelling

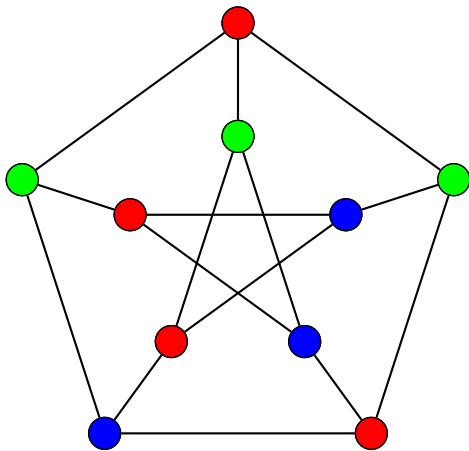


Exercise: vertex colouring

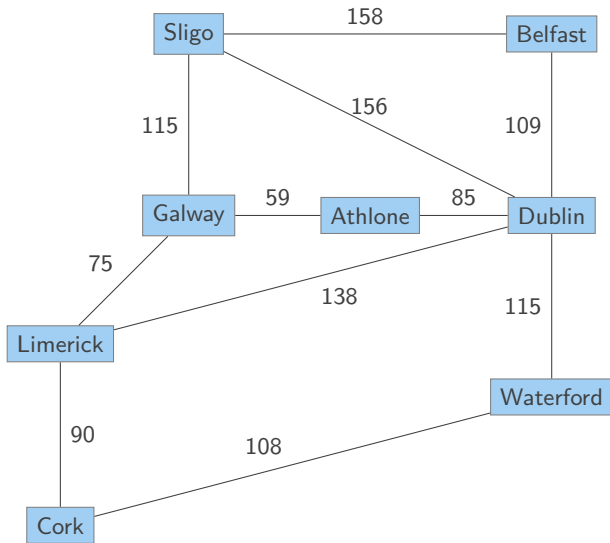
Colour the vertices so that no two connected vertices have the same colour. What is the minimum number of colours you need?



Example: vertex colouring



Example: weighted graph



Definitions

Vertex labelling: map from V to a set L .

Edge labelling: map from E to a set L .

Vertex colouring: map from V to a set L so that no two adjacent elements of V are mapped to the same element of L .

Weighted graph: edge labelled graph where L is a set with an ordering.