# Bellman Ford algorithm(BF)

* Solves the single-source shortest-path problem in the general case in which weights may be negative.
* If there is a cycle, the algorithm indicates that no solution exists
* If there is no such a cycle the algorithm produces a shortest-path tree rooted at s ∈ v

A screenshot of a cell phone

Description automatically generated

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Description automatically generated

Example of BF.

A picture containing air, group

Description automatically generated

The reason for using BF is that relaxation is not enough. After only one iteration of relaxation, the path can still be improved. This is what happens on line 5-7 in the algorithm.