

WEIGHTED GRAPHS

Why

Often the edges of some graph are associated with a particular cost, perhaps the cost of traversing that edge.

Definition

Let (V, E) be an undirected graph. An unordered weight function $w: E \to \mathbf{R}$ is a function mapping undirected edges to real numbers. A weighted undirected graph is an ordered pair ((V, E), w) where (V, E) is an undirected graph and w is an unordered weight function.

Let (V, F) be a directed graph. An ordered weight function or just weight function $\omega : F \to \mathbf{R}$ is a function mapping directed edges to real numbers. A weighted directed graph is an ordered pair $((V, F), \omega)$ where (V, E) is an undirected graph and ω is an ordered weight function.

