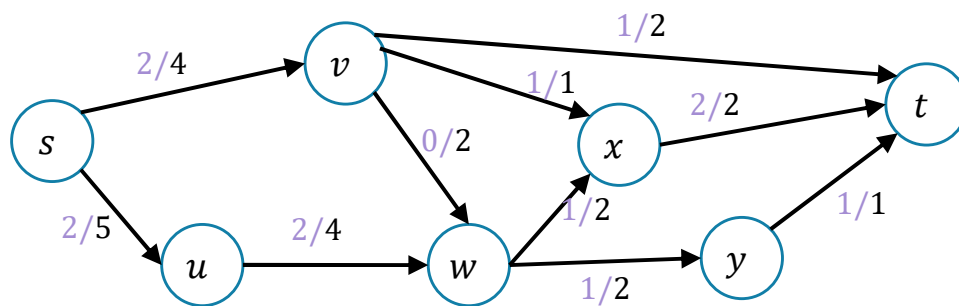


Flows

A **flow** moves units of water from s to t .

Water can only be created at s and only disappear at t .

And you cannot move more water than the capacity on any edge.



Residual Graph

In general:

If the original graph has an edge (u, v) of capacity c , and the flow sends $f_{u,v}$ along (u, v) :

Include (u, v) in the residual with capacity $c - f_{u,v}$ as long as $c - f_{u,v} > 0$ (if equal to zero, don't include the edge)

Include (v, u) [the edge going in the reverse direction] with capacity $f_{u,v}$ as long as $f_{u,v} > 0$

What's a Cut?

For directed graphs (like we have here)

An (s, t) -cut, is a split of the vertices into two sets (S, T)

So that s is in S , t is in T ,
and every other vertex is in exactly one of S and T .

The capacity of a cut (or size of a cut) is the capacity of the edges going from s to t (don't count capacity from t to s).

Another Example

Pollev.com/robbie

Residual



Flow

