Network Flow: Ford-Fulkerson Algorithm

FordFulkerson(G=(V,E), s in V, t in V)
set f(u,v) = 0 for all edges (u,v) in E (initial flow is 0)
set G_f = G (initially, residual graph is G)
while there’s an s-t path in G_f
    set P = an s-t path in G_f
    set f’ = augment(f,P)
    set f = f’
    set G_f = G_f’ (update residual graph based on new flow)
return f

augment(f,P) (f: a flow in G, P: an augmenting path in G_f)
set b = minimum edge capacity in P
for each edge (u,v) in P
    if (u,v) is a forward edge in G, set f(u,v) = f(u,v) + b (send more flow)
    else in G, set f(v,u) = f(v,u) - b (push some flow back)
return f (the updated flow)