

1) Trophy Order In!

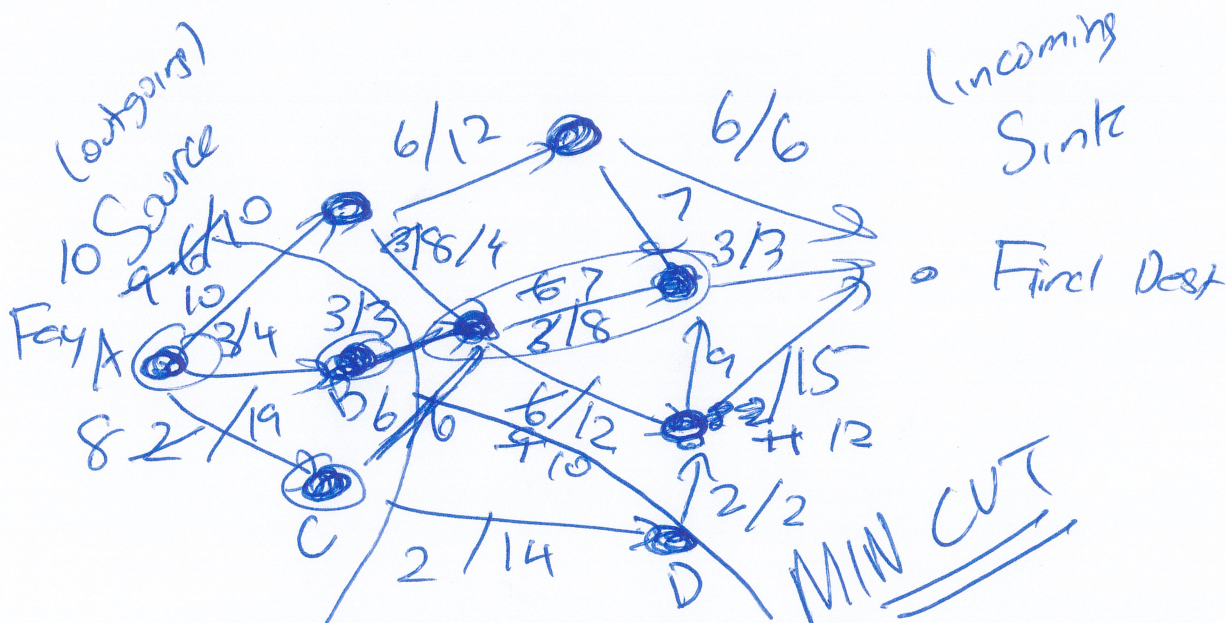
2) Come Next Tuesday -

Discuss our ChepGPT Contests

- $\Delta$  Room Assignments
- Rules

3) Network Flow

MAX FLOW - MIN CUT THM



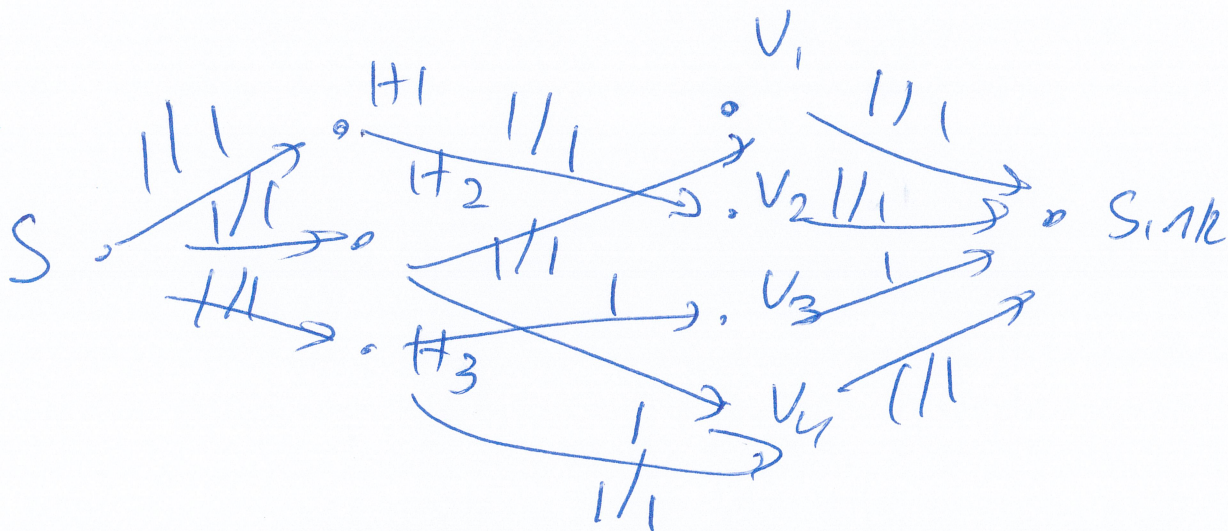
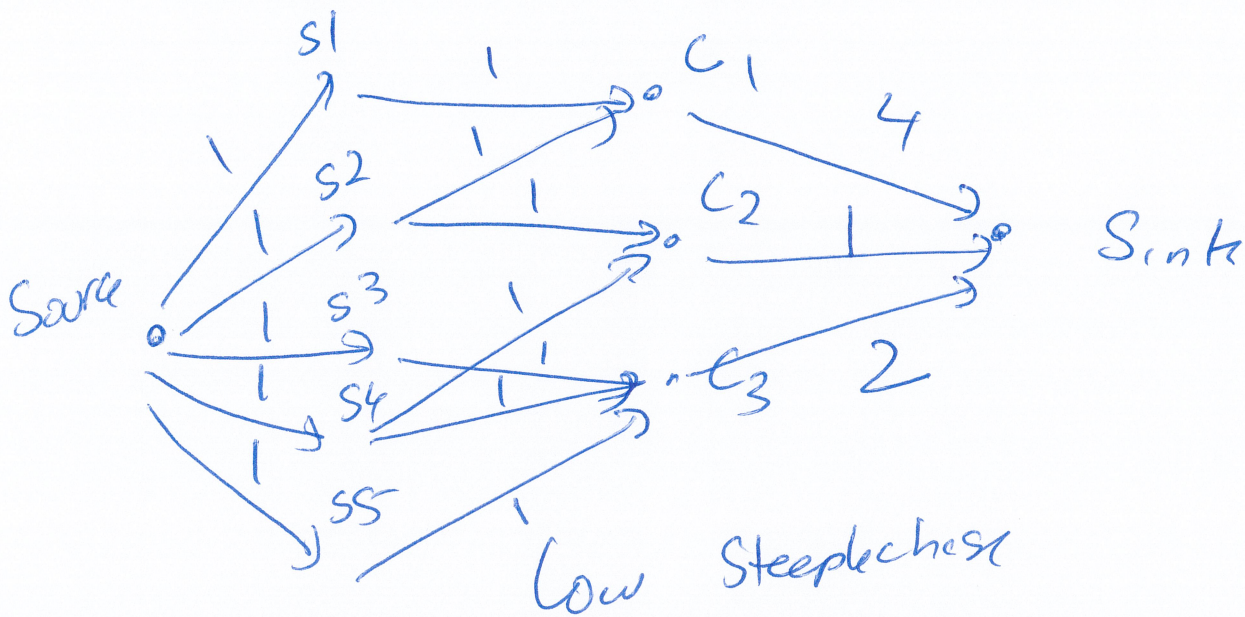
Iteratively Find Augmenting Paths

DFS or BFS

Augment Paths can travel edges  $\rightarrow$  two directions

- 1) forward if flow < cap
- 2) backwards if flow > 0

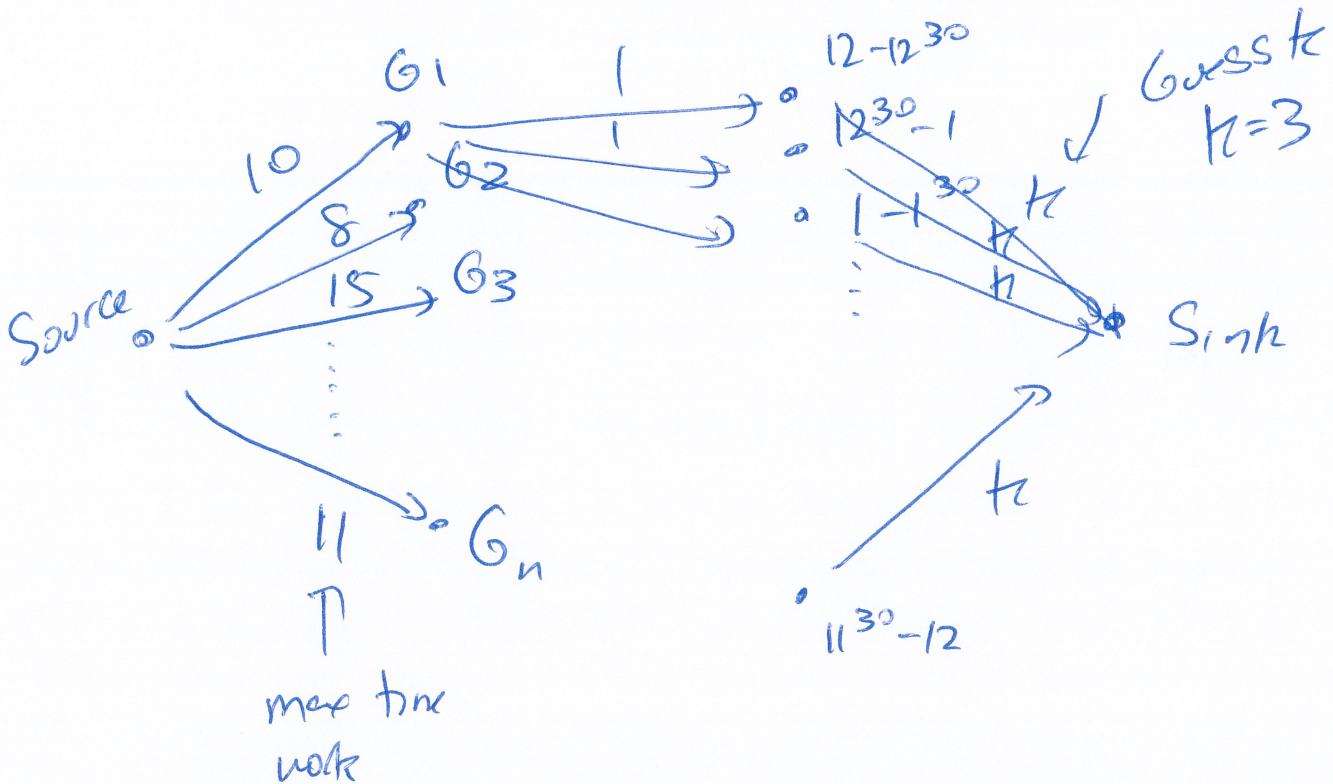
# Bipartite Matchings



Connect  $H_i$  to  $V_j$  if line  $H_i$  intersects line  $V_j$ .

Run flow and ans is # line segments that need to be removed.

# Museum Guards



for every shift a guard can work  
add edge w/cap 1 from that  
guard to that shift.

Run flow. If flow =  $48k$  (possible)  
else if flow <  $48k$  then not possible