workers

want committee \( C \subseteq w \)

small

all workers covered by \( a \in C \)-member

\[ \text{overlap} \]
union by rank

\[ \begin{align*}
0 & \rightarrow 1 \\
1 & \rightarrow 2 \\
0^2 & \rightarrow 1^2 \\
1^2 & \rightarrow 1^2 \\
\end{align*} \]

rank \( k \) 
\[ \geq 2^k \text{ nodes} \]
\[ \leq k \text{ height} \]

\( O(\log n) \) bound
worst case
Path compression along with union by rank

Now time $O(lg^* n)$ amortized

Better $O(a(n))$ amortized [Inverse Ackermann]