Input: $S = \{E_1, \ldots, E_n\}$.
Output: $mgu(S)$
Method:

1. $k := 0$; $\sigma_k = \{\}$

2. If $S\sigma_k$ is a singleton then return $\sigma_k$. Otherwise, find $D_k$ the disagreement set of $S\sigma_k$.

3. If there exists variable $v$ and term $t$ in $D_k$ such that $v$ does not appear in $t$, then $\sigma_{k+1} = \sigma_k, \{v \leftarrow t\}$; Increment $k$ and go to step 2. Otherwise stop; $S$ is not unifiable.