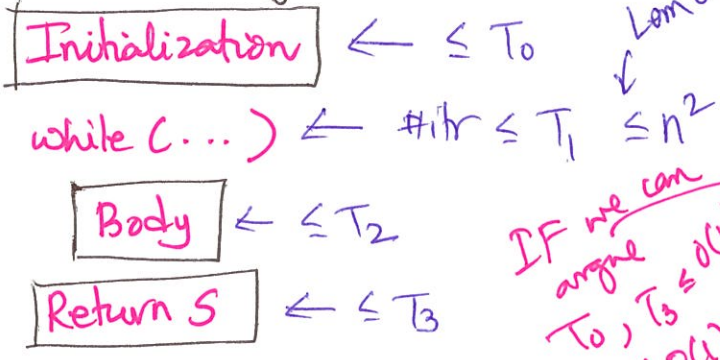


Sept 6

Implementing GS



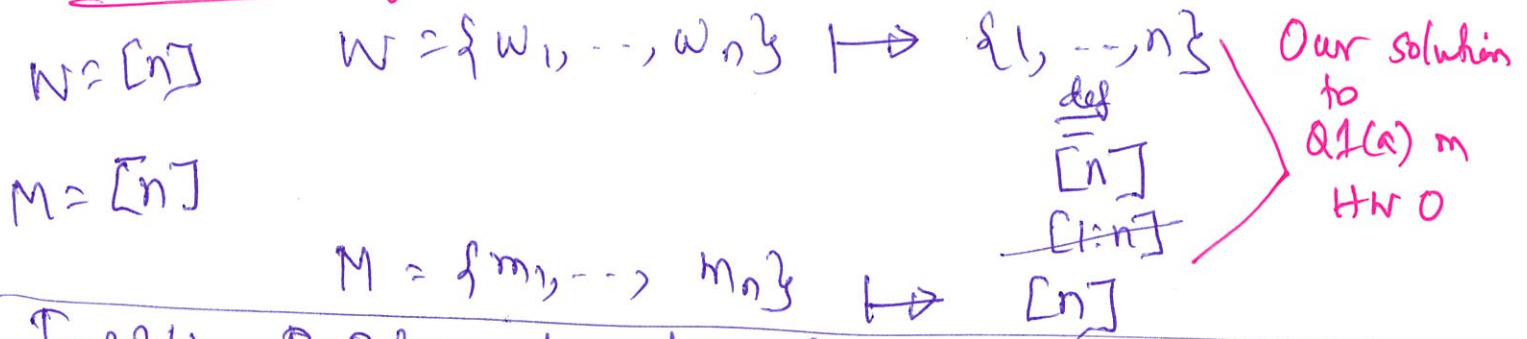
IF we can argue $T_0, T_3 \leq O(n^2)$
 $T_2 \leq O(1)$

Overall runtime

$$\begin{aligned}
 &\leq T_0 + T_1 \cdot T_2 + T_3 \\
 &\leq T_0 + n^2 \cdot T_2 + T_3 \\
 &\leq O(n^2) + n^2 \cdot O(1) + O(n^2) \\
 &\leq O(n^2) + O(n^2) + O(n^2) \\
 &\leq O(n^2)
 \end{aligned}$$

Goal: $T_0, T_3 \leq O(n^2)$, $T_2 \leq O(1)$ { choose the data structures appropriately }

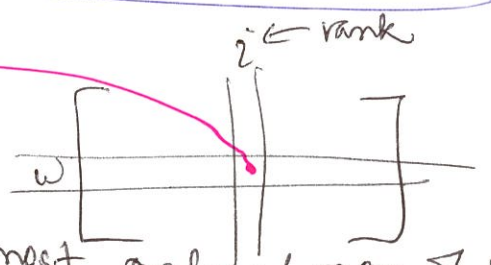
Notation change



In 331: Return by value (not return by ref)

(Q0) How is the input represented?

2D-array
 $n \times n$



Woman Pref $[w][i]$ = ID of the i th most preferred man of w
 Man Pref $[m][i]$ = _____ woman of m

Frnt: n/a Query: read WomanPref $[w][i]$ Update: n/a
 $\uparrow O(1)$