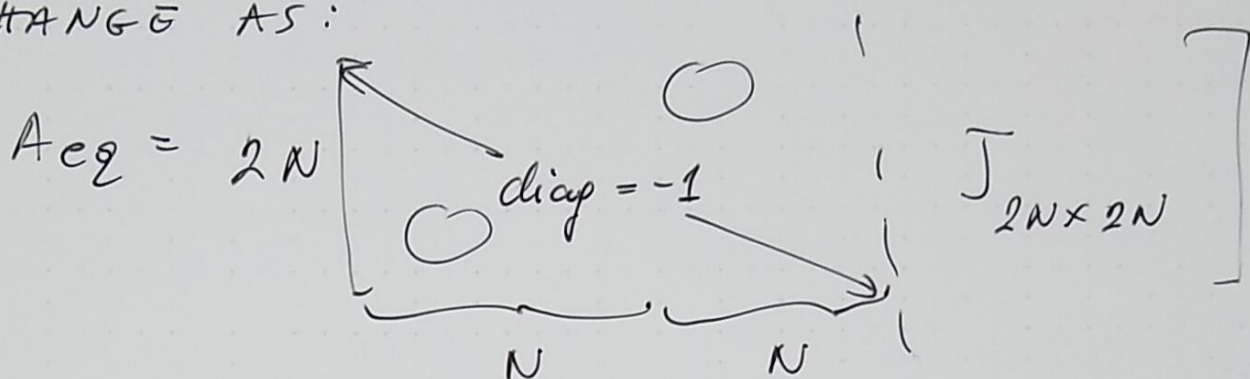


CHANGES: Instead of $P^k \neq Q^k$ in b_{eq} use $P^{k+1} = P^k + \Delta P^k$ and $Q^{k+1} = Q^k + \Delta Q^k$. Now, the b_{eq} will stay as before and A_{eq} will change as:



After this change you do not need to adjust A_{eq} for the slack bus. Just keep J as it is but don't forget that for slack bus:

$$\Delta V = 0 \quad \text{and} \quad \Delta \theta = 0$$

PV bus: $\Delta V = 0 \quad \text{and} \quad \Delta P = 0$

You should run your AC OPF on multiple (4 or 5) Matpower cases and compare the results.

Provide comments why the results are the same or different.

