

Thursday

① $\rightarrow W_1 = \{A \in V, \det(A) = 0, A^T = A\}$.

Not a v.s.s.

\rightarrow Because sum of 2 matr. having $\det = 0$, need not have $\det = 0$.

Sum is not zero.

② $\rightarrow W_2 = \{A \in V : \text{Trace}(A) = 0\}$

$A_1 ; \text{s.t. } \text{Trace}(A_1) = 0$

$A_2 ; \text{s.t. } \text{Trace}(A_2) = 0$

for $(A_1 + A_2) \rightarrow \text{Trace}(A_1 + A_2) = 0$

for $\alpha \cdot A_1 \rightarrow \text{Trace}(\alpha \cdot A_1) = 0$

it is (W_2) is also a subset of V .

So \rightarrow it is a vector subspace