Q:

A: PA = LU  $P^{\dagger}PA = P^{-1}LU$   $IA = P^{\dagger}LU$   $det(P^{\dagger}LU) = det(P^{-1}) det(L) det(U)$   $= det(P^{\dagger}) \mid det(U)$   $= det(P^{\dagger}) \cdot \prod_{t=1}^{n} u_{t1}$   $P^{\dagger}S \text{ permutation matrix}$   $det(P) = (-1)^{n}L det(P^{-1}) = det(P^{\dagger}) = 41^{n} = 1$ 

in  $det(P^{-1}LU) = 1 \cdot \prod_{i=1}^{n} Ui_i = \prod_{i=1}^{n} Ui_i = det(A)$ 

6 i defilis known LU is computed

=) we just computes 1. def (U)

> 1+ n-1 = n flops