First Idea to compute A^{-1}:

- Compute A
- then invert A to get to A^{-1} (In R: solve()
- Small data sets $\Rightarrow$ OK

$\Rightarrow$ Not possible for large data sets

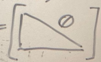
Simple structure of A^{-1} was discovered by Henderson who developed simple rules of computing A^{-1} directly, that means without first computing A.

The rules of computing A^{-1} are based on properties of A and A^{-1}.

- From Linear Algebra it is known that symmetric matrices can be decomposed into a product of three factors:

$$A = L \cdot D \cdot L^T$$

where L is lower triangular matrix $\Rightarrow$

$L =$ 

and D is a diagonal