The transpose, **X**T, of a matrix, **X**, is that matrix, that is obtained, when rows and columns

are interchanged. So if **X** n\*m-matrix, **X**T is a m\*n-matrix (m and n may be greater than 2

– they ay be very large!).

Explain why **X**T **X** can always be formed and why it is always square and why it is always

symmetric.