6. Update operation

$$(n, S, T) + (1, x_j, x_j x_j^T) = (n+1; S + x_j; T + x_j x_j^T)$$

7. Compactness and Efficiency:

Compactness: ++, on comparing with situation where we need to store all vectors, in this Can. Info we just store one number, one vector (size of n) and one matrix

Efficiency: ±, lightweight operations for combining, and heavy operations for matrix computations

8. Minimum number r is (1)