

## Subarray vs Subsequence vs Subset

Consider an array:

$\{1, 2, 3, 4\}$

Subarray: contiguous sequence in an array i.e.

$\{1, 2\}, \{1, 2, 3\}$

Subsequence: Need not to be contiguous, but maintains order i.e.

$\{1, 2, 4\}$

Subset: Same as subsequence except it has empty set i.e.

$\{1, 3\}, \{\}$

Given an array/sequence of size  $n$ , possible

Subarray =  $n*(n+1)/2$   
Subsequence =  $(2^n) - 1$  (non-empty subsequences)  
Subset =  $2^n$

However, Subset does not have to maintain order.