

### Problem Definition

**Given the set of integers  $S$  write a function that generates all possible subsets of  $S$  including the empty set.**

Example: when  $S = \{1, 2, 3\}$  the output should be  $\{\{\}, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}, \{1, 2, 3\}\}$

### Implementation Requirements

- **Implement a working code, ideally in one of the following languages (pick the one you prefer the most): C#, C++ or Python**
- **Please comment your code explaining your implementation choices and rationale (5-10 lines enough)**
- **In case you cannot meet the 24h target, feel free to send it when ready in any case**