RECURSION – "SUBSTRING & SUBSET"

Lab Description : Use recursion to implement methods `SubstringGenerator` and `SubsetGenerator` which will create smaller versions of inputted `Strings`.

Part 1: Implement a `SubstringGenerator` that generates all substrings of a string. For example, the substrings of the string **"rum"** are the seven strings `"r", "ru", "rum", "u", "um", "m", ""`

Hint: First enumerate all substrings that start with the first character. There are *n* of them if the string has length *n*. Then enumerate the substrings of the string that you obtain by removing the first character.

Part 2: Implement a `SubsetGenerator` that generates all subsets of the characters of a string. For example, the subsets of the characters of the string **"rum"** are the eight strings `"rum", "ru", "rm", "r", "um", "u", "m", ""`

*Note that the `subsets` don't have to be `substrings`—for example, **"rm"** isn't a substring of **"rum"**.*