

Programming Assignment 2-9

Write a program that asks the user to enter a `String`. The program then writes to console all substrings of this `String`. (By "substring", we mean any sequence of characters that occur consecutively and in the same order in the given `String`. Therefore, "erg" is a substring of "energy", but "gre" and "eng" are not. Note that the empty string "" is considered a substring of every string.)

Note: You will need to make sure that you do not output the same substring twice. For instance, if the user types in "abbab", you might accidentally output the `String` "ab" twice, since it occurs in two places in this `String`.

Here is typical output:

```
Type in a string: what
Substrings of length 0
[]
Substrings of length 1
[w]
[h]
[a]
[t]
Substrings of length 2
[wh]
[ha]
[at]
Substrings of length 3
[wha]
[hat]
Substrings of length 4
[what]
```