

Reverse a given string using recursion. Do the same using iteration.

We start by the recursive solution:

```
In [8]: def reversed_rec(string):
        print(string)
        if len(string) == 0:
            return string
        else:
            return reversed_rec(string[1:]) + string[0]
```

```
In [22]: print(reversed_rec('Run, you fool!'))
```

```
Run, you fool!
un, you fool!
n, you fool!
, you fool!
you fool!
you fool!
ou fool!
u fool!
fool!
fool!
ool!
ol!
l!
!
```

```
!loof uoy ,nuR
```

As we are going to create a second string to store the reversed version on the iterative solution, the time and Space complexity of this function will be of  $O(n)$ :

```
In [20]: def reversed_ite(string):
        reversed_string = ''
        for i in range(len(string)):
            reversed_string = reversed_string + string[len(string)-i-1]
        return reversed_string
```

```
In [23]: print(reversed_ite('Run, you fool!'))
```

```
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```