

Recursion

- A recursive function has two parts:
- **Base case:** How to solve the smallest version(s) of the problem that we care about.
- **Recursive case:** How to reduce a bigger version of the problem to one or more smaller versions.
 - In order to work, the recursive case (when applied over and over) must eventually reduce every size of the problem down to the base case.

Factorial

Base Case:

Recursive Case:

Recursive thinking:

```
if (problem is sufficiently simple) {                // Base Case
    Directly solve the problem.
    Return the solution.
}
else {                                              // Recursive Case
    Split the problem up into one or more smaller problems with a similar structure as the original.
    Solve each of those smaller problems.
    Combine the results to get the overall solution.
    Return the overall solution.
}
```

Reverse a string

Base Case:

Recursive Case: