Recursive Functions

1. A recursive function is a function that invokes or calls itself.
2. The process where a function calls itself is what we call **recursion.**
3. Recursion can be used as an alternative to iteration and this can result in less code that can easily be read.
4. Whenever you're writing a recursive function, you must include a **base case**.
5. A base case is a condition that will stop the recursion.
6. If you don't include a base case, the function will keep calling itself causing your program to crash.
7. Example:

```
function add(num) {
  if(num<=0 ) {
    return 0
  }
  return num + add(num-1)
}
```

   a. The above function will take any positive number and find the total sum of all the numbers below it up to zero.
   b. When we reach zero, the function returns zero, bringing the recursive process to an end.
   c. So the ***if*** statement is the base case.
   d. We stop the recursive process when we reach zero or are given a number less than zero.
   e. If we remove the if statement, the function will continue to add numbers until they reach negative infinity.
   f. The program would eventually crash due to a lack of memory.