# Week 3 – JavaScript String Manipulations and Utility Functions

## Overview

This week, we focus on manipulating strings and writing utility functions. These skills are essential for processing user input, formatting data, and building dynamic web applications.

**Videos to Watch Before Starting**

1. [JavaScript Strings Explained](https://www.youtube.com/watch?v=8Ey3nZ7zvpY)
2. [String Methods in JavaScript](https://www.youtube.com/watch?v=kY2LwdH3r2c)

**Practice Exercises**

**1. Reversing a Number**

A math app needs a feature to reverse a number for puzzles and quizzes.

**Task**:  
Write a function reverseNumber(num) that takes a number as input and returns its reverse.

Example Input:  
reverseNumber(15243)

Expected Output:  
34251

**Hint**: Use .toString() to convert the number to a string, and then .split(), .reverse(), and .join() to reverse it.

**2. Alphabetizing Letters in a String**

A library system needs to alphabetize book titles for easy search.

**Task**:  
Write a function alphabetize(str) that takes a string and returns the letters in alphabetical order.

Example Input:  
alphabetize('keyincollege')

Expected Output:  
ceeegikllnoy

**Hint**: Use .split(), .sort(), and .join() to rearrange the characters.

**3. Getting a File Extension**

An operating system needs to extract file extensions from filenames.

**Task**:  
Write a function getFileExtension(filename) that extracts and returns the file extension from a given filename.

Example Input:  
getFileExtension('document.pdf')

Expected Output:  
'pdf'

**4. Formatting the Current Date**

A calendar app needs to display the current date in various formats.

**Task**:  
Write a function getCurrentDate() that returns the current date formatted as:  
'mm-dd-yyyy', 'mm/dd/yyyy', 'dd-mm-yyyy', or 'dd/mm/yyyy'.

**5. Capitalizing the First Letter**

A form validation tool needs to standardize input by capitalizing the first letter of each entry.

**Task**:  
Write a function capitalize(str) that returns the string with the first letter converted to uppercase, keeping the rest of the string unchanged.

Example Input:  
capitalize('keyin')

Expected Output:  
'Keyin'

**6. Checking for a Period**

An email validation script needs to check if a string contains a period.

**Task**:  
Write a function checkPeriod(str) that returns:

* 'Contains period' if the string has a period (.).
* 'No period' if it does not.

Example Input:  
checkPeriod('hello.world')

Expected Output:  
'Contains period'

**7. Adding a Suffix to Numbers**

A ranking app needs to display numbers with proper suffixes (e.g., 1st, 2nd, 3rd).

**Task**:  
Write a function putSuffix(num) that adds the appropriate suffix (st, nd, rd, th) to a number.

* If no number is provided, return an empty string.

Example Input:  
putSuffix(22)

Expected Output:  
'22nd'

**Research Assignment**

Research and be ready to discuss:

1. The difference between mutable and immutable objects in JavaScript.
2. How JavaScript handles strings internally.