

## Exercise 1: Lists and Arrays

**Task:** Create a list and an array, perform some basic operations, and print the results (list 1 contains numbers 1 to 5 and list 2 contains numbers from 6 to 10)

## Exercise 2: Loading Data from Files

**Task:** Load data from a [CSV file](#) and print the first few rows.

## Exercise 3: Numpy and Array Indexing

**Task:** Create a numpy array and perform indexing and slicing operations.

## Exercise 4: Creating and Indexing Numpy Arrays

### *Task 1: Create a 1D Numpy Array and Access Elements*

1. Create a 1D numpy array with values from 0 to 9.
2. Access the 5th element of the array.
3. Access the last element of the array.

### *Task 2: Create a 2D Numpy Array and Access Elements*

1. Create a 2D numpy array with shape (3, 3) containing values from 1 to 9.
2. Access the element at the 2nd row and 3rd column.
3. Access the first row.
4. Access the first column.

## Exercise 2: Slicing and Advanced Indexing

### *Task 1: Slice a 1D Numpy Array*

1. Create a 1D numpy array with values from 10 to 19.
2. Slice the array to get elements from index 3 to 7.
3. Slice the array to get every second element.

### *Task 2: Slice a 2D Numpy Array*

1. Create a 2D numpy array with shape (4, 4) containing values from 1 to 16.
2. Slice the array to get the sub-array from rows 1 to 2 and columns 2 to 3.

3. Slice the array to get the last two rows.
4. Slice the array to get the first two columns.

## Exercise 3: Boolean Indexing and Fancy Indexing

### *Task 1: Boolean Indexing*

1. Create a 1D numpy array with values from 0 to 9.
2. Use boolean indexing to get elements greater than 5.
3. Use boolean indexing to get elements that are even.

### *Task 2: Fancy Indexing*

1. Create a 2D numpy array with shape (4, 4) containing values from 1 to 16.
2. Use fancy indexing to get the elements at positions (0, 0), (1, 2), (2, 3), and (3, 1).