

# Arrays

## Assignment Questions



1. Given an array, check if it contains any duplicates or not.

`arr = [1, 2, 4, 2, 5, 9]`

Output = True

2. Given an array and an integer k, rotate the array to the right by k steps.

`arr = [1, 2, 3, 4, 5, 6, 7] k = 3`

Output = `[5, 6, 7, 1, 2, 3, 4]`

3. Reverse the given array in-place, means without using any extra data structure.

`arr = [2, 4, 5, 7, 9, 12]`

Output = `[12, 9, 7, 5, 4, 2]`

4. Given an array of integers, find the maximum element in an array

`arr = [10, 5, 20, 8, 15]`

Output = 20

5. Given a sorted array, remove the duplicate element without using any extra data structure.

`arr = [1, 1, 2, 2, 2, 3, 3, 4, 4, 4, 5, 5]`

Output = `[1, 2, 3, 4, 5]`

## Submission Guidelines:

- Answer all the questions in a single Jupyter Notebook file (.ipynb).
- Include necessary code, comments, and explanations to support your answers and implementation.
- Ensure the notebook runs without errors and is well-organized.
- Create a GitHub repository to host your assignment files.
- Rename the Jupyter Notebook file using the format "date\_month\_topic.ipynb" (e.g., "21st\_September\_GAN.ipynb").
- Place the Jupyter Notebook file in the repository.
- Commit and push any additional files or resources required to run your code (if applicable) to the repository.
- Ensure the repository is publicly accessible.
- Submit the link to your GitHub repository as the assignment submission.

## Grading Criteria:

- Understanding and completeness of answers: 40%
- Clarity and depth of explanations: 25%
- Correct implementation and evaluation of optimizer techniques: 15%
- Analysis and comparison of different optimizers: 10%
- Proper code implementation and organization: 10%

**Note:** Create your assignment in Jupyter notebook and upload it to GitHub & share that uploaded assignment file link through your dashboard. Make sure the repository is public.