**LC#238:PRODUCT OF ARRAY EXCEPT SELF**

**APP1:**

* **Use two array pre post to calculate**
* **Initialise the first and last value in the pre array**
* **For pre values start from id-1**
* **For post values start from n-2**

class Solution {

    public int[] productExceptSelf(int[] nums) {

        int n = nums.length;

        int pre[] = new int[n];

        int post[] = new int[n];

        pre[0] = 1;

        post[n-1] = 1;

        for(**int i = 1**;i<n;i++)

        {

**pre[i] = pre[i-1] \*nums[i-1];**

        }

        for(**int i = n-2**;i>=0;i--)

        {

**post[i] = post[i+1]\*nums[i+1];**

        }

        for(int i = 0 ; i<n;i++)

            post[i] \*= pre[i];

        return post;

    }

}

**APP:OPTIMAL**

* **Instead of two arrays use a variable suffix**

class Solution {

    public int[] productExceptSelf(int[] nums) {

        int n = nums.length;

        int[] res = new int[n];

        res[0] = 1;

        for (int i = 1; i < n; i++) {

            res[i] = res[i-1] \* nums[i-1];

        }

        int suffix = 1;

        for (int i = n-1; i >= 0; i--) {

            res[i] = res[i] \* suffix;

            suffix \*= nums[i];

        }

        return res;

    }

}