9/9/25

Task - 8.

Arrays - Introduction, memory allocation operations (insert, delete, search sorted and unsorted array, Suffix array, subsequence and subarray.

Algorithm

```
1. Read the number of elements n in the Array A.
2. Read the array A.
3. Initialize max-val to -1
4. Repeat the following steps for all possible pairs (i,j) where 1<=i<j<=n,
   i. calculate the value of the expression A[i]*A[J]+[i-j]
   ii. If the calculated value is greater than max-val set max-val to the
       calculated value.
5. Print the value of max-val for the current test case.
6. End.
```

```
#include <stdio.h>

void rotate(int arr[], int n, int k) { k = k % n;

int temp[k];

for (int i = 0; i < k; i++) { temp[i] = arr[n - k + i];

}

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

arr[i] = arr[i - k];

}

for (int i = 0; i < k; i++) { arr[i] = temp[i];

}

}

int main() { int n, k;

printf("Enter the size of the array: "); scanf("%d", &n);

int arr[n];

printf("Enter the array elements: "); for (int i = 0; i < n; i++) {

scanf("%d", &arr[i]);

}

printf("Enter the number of positions to rotate: "); scanf("%d", &k);

rotate(arr, n, k);

printf("The rotated array is: "); for (int i = 0; i < n; i++) {

printf("%d ", arr[i]);

}

return 0;

}
```

Result:-

Thus, the program is executed and verified Successf

Task-8B

19/11/25

Problem

Students have become secret admirers of grade. They find the course exciting and the proffessors amusing. After a superb Mid semister examination its now time for the result. The Tns have released the marks of students in the form of an array. where arr[i] represents the marks of the i^th student.

Algorithm

1. Read the input values of n and the array arr[i]

2. Initialize a Variable max as the first element of the arrqy arr[0]

3. Traverse the array arr[i] from right to left and for each element arr[i] do the following:

a) If arr[i]>= max, then set max = arr[i] and print arr[i].

4. End.

```
#include <stdio.h>

int maxSubArray(int arr[], int n) { int max_so_far = arr[0];
int max_ending_here = arr[0];

for (int i = 1; i < n; i++) {
max_ending_here = (arr[i] > max_ending_here + arr[i]) ? arr[i] : max_ending_here + arr[i]; max_so_far =
(max_so_far > max_ending_here) ? max_so_far : max_ending_here;

}

return max_so_far;

}
int main() { int n;
printf("Enter the size of array: "); scanf("%d", &n);
int arr[n];
printf("Enter the elements of array: "); for (int i = 0; i < n; i++) {
scanf("%d", &arr[i]);
}
int max_sum = maxSubArray(arr, n);
printf("The maximum subarray sum is: %d\n", max_sum);

return 0;
}
```

VEL TECH - CSE	
EX NO	8
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	15
SIGN WITH DATE	

Result:-

Thus, the program is executed and verified Successfull