

Jawahar Education Society's A. C. Patil College of Engineering, Kharghar Navi Mumbai 410210

Student Name: Chetan Ingale PRN No.: 221111030

Course Name: C.S.E. (IoT, CS & BC)

Course code: CSL301

Year: S.E. Semester: 3

Roll No.: 17

Experiment Evaluation Sheet

Experiment No.: 1

Experiment Name: Program to store the elements in 1-D array and

perform the operations like searching, sorting, reversing the elements.

Sr No.	Evaluation Criteria	Marks (Out of 9)	Performance Date	Correction Date and Signature of Instructor
1	Experiment Performance			
2	Journal Performance			
3	Punctuality			
Total				

Code:

```
#include <stdio.h>
void storeElements(int arr[], int n) {
  printf("Enter the elements:\n");
  for (int i = 0; i < n; i++) {
     scanf("%d", &arr[i]);
}
int searchElement(int arr[], int n, int target) {
  for (int i = 0; i < n; i++) {
     if (arr[i] == target) {
        return i;
     }
   }
  return -1;
void sortArray(int arr[], int n) {
  int temp;
  for (int i = 0; i < n - 1; i++) {
     for (int j = 0; j < n - i - 1; j++) {
        if (arr[j] > arr[j + 1]) {
           temp = arr[i];
           arr[j] = arr[j + 1];
           arr[j + 1] = temp;
  printf("Array: ");
  for (int i = 0; i < n; i++) {
     printf("%d ", arr[i]);
  printf("\n");
void reverseArray(int arr[], int n) {
  int temp, start = 0, end = n - 1;
  while (start < end) {
     temp = arr[start];
     arr[start] = arr[end];
     arr[end] = temp;
     start++;
     end--;
  printf("Array: ");
  for (int i = 0; i < n; i++) {
     printf("%d ", arr[i]);
  printf("\n");
```

Code:

```
int main() {
  int n, choice, target, index;
  printf("Enter the number of elements in the array: ");
  scanf("%d", &n);
  int arr[n];
  storeElements(arr, n);
  while (1) {
     printf("\nOperations:\n");
     printf("1. Search an element\n");
     printf("2. Sort the array\n");
     printf("3. Reverse the array\n");
     printf("4. Exit\n");
     printf("Enter your choice (1/2/3/4): ");
     scanf("%d", &choice);
     switch (choice) {
        case 1:
          printf("Enter the element to search: ");
          scanf("%d", &target);
          index = searchElement(arr, n, target);
          if (index !=-1) {
             printf("Element found at index %d\n", index + 1);
          } else {
             printf("Element not found in the array.\n");
          break;
        case 2:
          sortArray(arr, n);
          printf("Array sorted successfully.\n");
          break;
        case 3:
          reverseArray(arr, n);
          printf("Array reversed successfully.\n");
          break;
        case 4:
          printf("Exiting the program.\n");
          return 0;
        default:
          printf("Invalid choice. Please enter a valid option (1/2/3/4).\n");
  }
  return 0;
```

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Data Structure Lab

Output:

