

# a. Basic C programmes

## Second largest

```
#include <stdio.h>

int main() {
    int size;

    printf("Enter the total number of elements: ");
    scanf("%d", &size);

    if (size < 2) {
        printf("The array must have at least two elements.\n");
        return 0;
    }

    int arr[size];
    int maxElement, secondMax;

    printf("Input the elements of the array:\n");
    for (int i = 0; i < size; i++) {
        scanf("%d", &arr[i]);
    }

    maxElement = secondMax = arr[0];

    for (int i = 1; i < size; i++) {
        if (arr[i] > maxElement) {
            secondMax = maxElement;
            maxElement = arr[i];
        } else if (arr[i] > secondMax && arr[i] != maxElement) {
            secondMax = arr[i];
        }
    }

    if (maxElement == secondMax) {
        printf("No second largest element found.\n");
    } else {
        printf("The second largest element is: %d\n", secondMax);
    }
}
```

```
    return 0;
}
```

Enter the total number of elements: 5

Input the elements of the array:

12 35 1 10 34

The second largest element is: 34

## DELETE ELEMENT IN AN ARRAY

```
#include <stdio.h>
//Write a program in C to delete an element at a desired position from an array
int main() {
    int n, position;

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

    if (n <= 0) {
        printf("Array size must be greater than 0.\n");
        return 0;
    }

    int arr[n];

    printf("Enter the elements of the array:\n");
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    printf("Enter the position of the element to delete (1 to %d): ", n);
    scanf("%d", &position);

    if (position < 1 || position > n) {
        printf("Invalid position!\n");
        return 0;
    }

    for (int i = position - 1; i < n - 1; i++) {
        arr[i] = arr[i + 1];
    }
}
```

```

n--;

printf("Array after deletion:\n");
for (int i = 0; i < n; i++) {
    printf("%d ", arr[i]);
}
printf("\n");

return 0;
}

```

Enter the total number of elements: 6

Input the elements of the array:

10 20 30 40 50 60

Enter the position to remove an element (1 to 6): 4

Updated array after deletion:

10 20 30 50 60