**Problem Solving Phase------------**

1. **Finding third Largest Elements in the array----**

Code:-

#include<iostream>

using namespace std;

int sortingElements(int \*arr, int n)

{

int i, j;

for(i = 0; i<n; i++)

{

for(j = 1; j <= n-i-1; j++) // everyTime leaving the last elements as it becomes the heighest and located into the right place

{

if(arr[j] > arr[j+1])

{

int temp;

temp = arr[j];

arr[j] = arr[j+1];

arr[j+1] = temp;

}

}

}

}

int thirdLargest(int \*arr, int n){

if(n < 3)

{

cout << "Array has less than 3 elements." << endl;

return -1; // Return a special value to indicate an error

}

// Sort the elements

sortingElements(arr, n);

// The third largest element is at index n - 3 (0-based index)

return arr[n - 3];

}

int main()

{

int n;

cout<<"Enter the size of the array"<<endl;

cin>>n;

int arr[n];

cout<<"Enter the Array's elements"<<endl;

for(int i = 0; i<n; i++){

cin>>arr[i];

}

int result = thirdLargest(arr,n);

if(result == -1)

{

cout<<"Empty "<<endl;

}

else{

cout<<"Third Largest Elements"<<result;

}

return 0;

}

// 1 4 5 3 8 0 9

// after sorting---0 1 3 4 5 8 9

// sorting------

//1 4 3 5 0 8 9------1

//1 3 4 0 5 8 9------2

//1 3 0 4 5 8 9------3

//1 0 3 4 5 8 9------4

//0 1 3 4 5 8 9------5

Output:-

