Sum of Array

Java Code:

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int[] arr = new int[n];
        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }

        int sum = 0;

        for(int i=0;i<n;i++){
            sum = sum + arr[i];
        }

        System.out.println(sum);
    }
}
```

C++ Code:

```
#include <iostream>
using namespace std;

int main() {
    int n;
    cin >> n;

    int* arr = new int[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    int sum = 0;

    for (int i = 0; i < n; i++) {
        sum += arr[i];
    }

    cout << sum << endl;

    delete[] arr;
    return 0;
}
```

Python Code:

```
def main():
    n = int(input())
    arr = list(map(int, input().split()))

    sum_ = 0
    for num in arr:
        sum_ += num

    print(sum_)

if __name__ == "__main__":
    main()
```

Max of Array

Java Code:

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int[] arr = new int[n];
        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }

        int max = Integer.MIN_VALUE;

        for(int i=0;i<n;i++){
            if(arr[i] > max){
                max = arr[i];
            }
        }

        System.out.println(max);
    }
}
```

C++ Code:

```
#include <iostream>
#include <limits>
using namespace std;

int main() {
    int n;
    cin >> n;
```

```
    int* arr = new int[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    int max = numeric_limits<int>::min();

    for (int i = 0; i < n; i++) {
        if (arr[i] > max) {
            max = arr[i];
        }
    }

    cout << max << endl;

    delete[] arr;
    return 0;
}
```

Python Code:

```
def main():
    n = int(input())
    arr = list(map(int, input().split()))

    max_ = float('-inf')

    for num in arr:
        if num > max_:
            max_ = num

    print(max_)

if __name__ == "__main__":
    main()
```

Swap Indexes

Java Code:

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
       Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int[] arr = new int[n];
        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }
        int idx1 = scn.nextInt();
        int idx2 = scn.nextInt();

        int temp = arr[idx1];
        arr[idx1] = arr[idx2];
        arr[idx2] = temp;

         for(int i=0;i<n;i++){
            System.out.print(arr[i]+" ");
        }
    }
}
```

C++ Code:

```
#include <iostream>
using namespace std;

int main() {
    int n;
    cin >> n;

    int* arr = new int[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
```

```
    }

    int idx1, idx2;
    cin >> idx1 >> idx2;

    int temp = arr[idx1];
    arr[idx1] = arr[idx2];
    arr[idx2] = temp;

    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }

    delete[] arr;
    return 0;
}
```

Python Code:

```
def main():
    n = int(input())
    arr = list(map(int, input().split()))

    idx1, idx2 = map(int, input().split())

    arr[idx1], arr[idx2] = arr[idx2], arr[idx1]

    for num in arr:
        print(num, end=" ")

if __name__ == "__main__":
    main()
```

Reverse Array

Java Code:

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int[]arr = new int[n];

        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }

        int s = 0;
        int e = n-1;
        while(s < e){
            int temp = arr[s];
            arr[s] = arr[e];
            arr[e] = temp;
            s++;
            e--;
        }

        for(int i=0;i<n;i++){
            System.out.print(arr[i]+" ");
        }

    }
}
```

C++ Code:

```
#include <iostream>
using namespace std;

int main() {
    int n;
    cin >> n;

    int* arr = new int[n];
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    int s = 0;
    int e = n - 1;
    while (s < e) {
        int temp = arr[s];
        arr[s] = arr[e];
        arr[e] = temp;
        s++;
        e--;
    }

    for (int i = 0; i < n; i++) {
        cout << arr[i] << " ";
    }

    delete[] arr;
    return 0;
}
```

Python Code:

```
def main():
    n = int(input())
    arr = list(map(int, input().split()))

    s = 0
    e = n - 1
    while s < e:
        arr[s], arr[e] = arr[e], arr[s]
        s += 1
        e -= 1

    for num in arr:
        print(num, end=" ")

if __name__ == "__main__":
    main()
```

Largest Number at least twice_HW

Solution Vid: https://youtu.be/_Dj2BNXTzCY

Java Code:

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int[]arr = new int[n];

        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }

        System.out.println(dominantIndex(arr));
    }

     public static int dominantIndex(int[] arr) {
```

```
        int max = Integer.MIN_VALUE;
        int index = -1;
        int second = -1;
         ]
        for (int i = 0; i < arr.length; i++) {
            if (arr[i] > max) {
                second = max;
                max = arr[i];
                index = i;
            } else if (arr[i] > second)
                second = arr[i];
        }
        return second * 2 <= max ? index : -1;
    }
}
```

C++ Code:

```
#include <iostream>
#include <vector>
using namespace std;

int dominantIndex(vector<int>& arr) {
    int max = INT_MIN;
    int index = -1;
    int second = -1;

    for (int i = 0; i < arr.size(); i++) {
        if (arr[i] > max) {
            second = max;
            max = arr[i];
            index = i;
        } else if (arr[i] > second)
            second = arr[i];
    }

    return second * 2 <= max ? index : -1;
}

int main() {
    int n;
    cin >> n;
    vector<int> arr(n);

    for (int i = 0; i < n; i++) {
        cin >> arr[i];
```

```
    }

    cout << dominantIndex(arr) << endl;

    return 0;
}
```

Python Code:

```
def main():
    n = int(input())
    arr = list(map(int, input().split()))
    print(dominantIndex(arr))

def dominantIndex(arr):
    max_val = float('-inf')
    index = -1
    second = -1

    for i in range(len(arr)):
        if arr[i] > max_val:
            second = max_val
            max_val = arr[i]
            index = i
        elif arr[i] > second:
            second = arr[i]

    return index if second * 2 <= max_val else -1

if __name__ == "__main__":
    main()
```