

HelwanICPC Camp2022 Day 2

Lecture Toic

- *Mod Operation*
 - *Bit Operators*
 - *Maximum Subbarray*
 - *Compare Function*
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Mod Operation

- **Resources:**
 - <https://www.mathsisfun.com/numbers/modulo.html>
 - **Problem:**
 1. <https://vjudge.net/contest/505473#problem/F>
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Bit Operators

- **Resources:**
 - <https://www.programiz.com/cpp-programming/bitwise-operators>
 - **Problem:**
 1. <https://vjudge.net/contest/505473#problem/F>
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Maximum Subarray

Code:

```
int n;
cin>>n; ll cnt=0, mx=LONG_LONG_MIN;
ll arr[n];
for(int i=0;i<n;i++){
    cin>>arr[i];
}

ll cur = 0 , opt = LONG_LONG_MIN;
for(int i = 0; i < n; i++){
    if(ar[i] > cur+ar[i]){
        cur = ar[i];
        l = i;
    } else {
        cur = cur + ar[i];
    }
    if(cur > opt){
        opt = cur;
        OptL = l;
        r = i;
    }
}
cout << opt << endl;
```

- **Resources:**

- <https://www.geeksforgeeks.org/sort-c-stl/>

- **Problems:**

1. <https://vjudge.net/contest/505473#problem/G>

Compare Function

- **Resources:**

- <https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

- **Problems:**

Problems 1 The Z sequence

- **Solution**

- ```
#include<bits/stdc++.h>
using namespace std;
#define fast_cin() ios_base::sync_with_stdio(false); cin.tie(NULL);
cout.tie(NULL)

int cmp(int a,int b){
 if(a%2==0 && b%2==0){
 return a<b;
 }
 else if(a&1 && b&1){
 return b<a;
 }

 else
 return (b%2==0 && a&1);
}

int main(){
 fast_cin()
 int n ;
 cin >> n ;
 int arr[n];
 for(int i=0;i<n;i++)
 cin >> arr[i];
 sort(arr, arr+n,cmp);
 for(int i=0;i<n;i++)
 cout << arr[i]<< " ";

}
```

- **Code:**

- ```
#include <bits/stdc++.h>
#define fast_cin() ios_base::sync_with_stdio(false);
cin.tie(NULL); cout.tie(NULL)
using namespace std;
void solve(){

}

bool cmp(string a , string b){
    if(a.size() < b.size())
        return true;
    else if(a.size() == b.size()){
        return a < b;
    }
    return false;
}

int main()
{
    fast_cin();
    int n;
    cin >> n;
    string str[n];
    for(int i = 0; i < n; i++){
        cin >> str[i];
    }
    sort(str, str+n);
    for(int i=0;i<n;i++)
        cout<<str[i]<<" ";
    cout<<endl;

    sort(str , str + n , cmp);
    for(int i=0;i<n;i++)
        cout<<str[i]<<" ";
    cout<<endl;
    return 0;
}
```
