

```
1  /*
2   | Fenwick Tree |
3   Desc: Point update range query / Range update point query in O(n*log(n))
4   Source: KawakiMeido
5   State: Untested lmao
6 */
7
8 struct Fenwick{
9     vector<int> BIT;
10
11    Fenwick(int _n=0): n(_n){
12        BIT.resize(n+10);
13    }
14
15    void Init (int _n, int val=0){
16        BIT.resize(n+10,0);
17    }
18
19    void update(int idx, int val){
20        while (idx<=n){
21            BIT[idx]+=val;
22            idx+=(idx&(-idx));
23        }
24    }
25
26    int getPoint(int idx){
27        int res = 0;
28        while (idx>0){
29            res+=BIT[idx];
30            idx-=(idx&(-idx));
31        }
32        return res;
33    }
34
35    int getVal(int l, int r){
36        return (getPoint(r)-getPoint(l-1));
37    }
38 }
```