

```
1  int tree[MAXN];
2  void update(int idx, int val) {
3      while(idx <= n) {
4          tree[idx] += val;
5          idx += (idx & -idx);
6      }
7  }
8  int read(int idx) {
9      int sum = 0;
10     while(idx > 0) {
11         sum += tree[idx];
12         idx -= (idx & -idx);
13     }
14     return sum;
15 }
16
17 int findG(int cumFre){
18     int idx = 0, bitMask = 1;
19     for (; (bitMask<<1) <=n; bitMask <= 1);
20     while ((bitMask != 0) && (idx < n)){
21         int tIdx = idx + bitMask;
22         if (cumFre >= tree[tIdx]){
23             idx = tIdx;
24             cumFre -= tree[tIdx];
25         }
26         bitMask >>= 1;
27     }
28     return (cumFre != 0 ? -1 : idx);
29 }
30
```