```
//Finding the kth smallest number in a range
//the index of range should be the same with index or roots
int find(int i , int j , int k){
        return find(k , roots[i] , roots[j+1] , 0 , n-1);
}

int find(int k , Vertex *p1 , Vertex *p2 , int l , int r){
    // check not found case
    if(p2->sum-p1->sum < k) return inf;

    // return the answer
    if(l==r) return l;

    // check the condition and go left or right
    int count = p2->l->sum-p1->l->sum;
    if(k <= count)
        find(k , p1->l , p2->l , left);
    else
        find(k - count , p1->r , p2->r , right);
}
```