<code>

#include<bits/stdc++.h> using namespace std; const int N=500005; typedef long long ll; ll tr[N*4],a[N]; inline int ls(int o){

```
return o<<1;
```

} inline int rs(int o){

```
return o<<1|1;
```

} void push_up(int o){

```
tr[o]=tr[ls(o)]+tr[rs(o)];
```

} void build(int o,int l,int r){

```
if(l==r){
    tr[o]=a[l];
    return;
}
int mid=l+r>>1;
build(ls(o),l,mid);
build(rs(o),mid+1,r);
push_up(o);
```

} void xg(int o,int pos,int l,int r,ll k,int op){

```
if(l==r){
    if(op==1) tr[o]+=k;
    else tr[o]=k;
    return;
}
int mid=l+r>>1;
if(pos<=mid) xg(ls(o),pos,l,mid,k,op);
else xg(rs(o),pos,mid+1,r,k,op);
push_up(o);
```

} ll cx(int o,int nl,int nr,int l,int r){

```
if(nl<=l&&r<=nr) return tr[o];
int mid=l+r>>1;
ll ret=0;
if(nl<=mid) ret+=cx(ls(o),nl,nr,l,mid);
if(nr>mid) ret+=cx(rs(o),nl,nr,mid+1,r);
return ret;
```

} int main(){

```
int n,m;
```

```
scanf("%d %d",&n,&m);
for(int i=1;i<=n;i++){
    scanf("%d",&a[i]);
}
build(1,1,n);
for(int i=1;i<=m;i++){
    int op;
    scanf("%d",&op);
    if(op==1||op==3){
        int pos;
        ll k;
        scanf("%d %lld",&pos,&k);
        xg(1,pos,1,n,k,op);
    }
    else{
        int l,r;
        scanf("%d %d",&l,&r);
        printf("%lld\n",cx(1,l,r,1,n));
    }
}
return 0;
```

}

<\code>