

```
1 #include<iostream>
2 #include<cstdio>
3 #include<cstring>
4 using namespace std;
5 int n;
6 long long int BIT[2][2][1025][1025];
7
8 void update(int x,int y,long long int value){
9     int xx=x;
10    while(xx<=n){
11        int yy=y;
12        while(yy<=n){
13            BIT[x%2][y%2][xx][yy]^=value;
14            yy+=(yy&~yy);
15        }
16        xx+=(xx&~xx);
17    }
18 }
19
20 long long int sum(int x,int y){
21     long long int ans=0;
22     int xx=x;
23     while(xx!=0){
24         int yy=y;
25         while(yy!=0){
26             ans^=BIT[x%2][y%2][xx][yy];
27             yy-=(yy&~yy);
28         }
29         xx-=(xx&~xx);
30     }
31     return ans;
32 }
33
34 int main(){
35     int p,q;
36     int a,b,c,d;
37     long long int val;
38     scanf("%d %d",&n,&q);
39     while(q--){
40         scanf("%d",&p);
41         if(p==1){
42             scanf("%d %d %d %d",&a,&b,&c,&d);
43             long long int ans=sum(c,d)^sum(a-1,b-1)^sum(c,b-1)^sum(a-1,d);
44             printf("%I64d\n",ans);
45         }
46         else{
47             scanf("%d %d %d %d %I64d",&a,&b,&c,&d,&val);
48             update(a,b,val);
49             update(a,d+1,val);
50             update(c+1,b,val);
51             update(c+1,d+1,val);
52         }
53     }
54 }
```