#include <bits/stdc++.h>

#define mp make\_pair

#define pb push\_back

#define sz(x) (int)x.size()

#define all(x) begin(x), end(x)

#define fi first

#define se second

#define debug(x) cerr << #x << " " << x << '\n'

using namespace std;

using ll = long long;

using pii = pair<int,int>;

using pli = pair<ll,int>;

const int INF = 0x3f3f3f3f, N = 15;

const ll LINF = 1e18 + 5;

constexpr int mod = 1e9 + 7;

void solve()

{

ll x, y, l, r;

scanf("%lld%lld%lld%lld", &x, &y, &l, &r);

ll ans = (x&r)\*(y&r), z = r;

for(int i=40; i>=0; i--)

{

int b = (r>>i)&1;

if(b)

{

ll c = (r>>(i+1)<<(i+1)) + (1ll<<i) - 1;

for(int i=40; i>=0; i--)

{

int aa = (x>>i)&1, bb = (y>>i)&1, cc = (c>>i)&1;

if(!aa && !bb && cc)

if((c^(1ll<<i))>=l) c ^= (1ll<<i);

}

if(c<l) continue;

if((x&c)\*(y&c)>ans || (((x&c)\*(y&c))==ans&&c<z)) ans = (x&c)\*(y&c), z = c;

}

}

if(!ans) z = l;

printf("%lld\n", z);

}

int main()

{

int T; scanf("%d", &T);

while(T--) solve();

return 0;

}