#include

#include

using namespace std;

int s[50010], f[100010];

struct cow

{

int x, t;

} d[50010];

bool operator < (cow a, cow b)

{

return a.x < b.x;

}

int main()

{

freopen("balance.in", "r", stdin);

freopen("balance.out", "w", stdout);

int n, m, i;

scanf("%d", &n);

for (i = 1; i <= n; i++)

scanf("%d%d", &d[i].t, &d[i].x);

s[0] = 0;

sort(d+1, d+n+1);

for (i = 1; i <= n; i++)

{

if (d[i].t)

s[i] = s[i-1]+1;

else

s[i] = s[i-1]-1;

if (f[s[i]+n] == 0)

f[s[i]+n] = i;

}

m = 0;

for (i = 1; i <= n; i++)

if (f[s[i]+n] != i && m < d[i].x-d[f[s[i]+n]+1].x)

m = d[i].x-d[f[s[i]+n]+1].x;

printf("%d\n", m);

return 0;

}