Hokage's Responsibility

Being the 7th Hokage of The Hidden Leaf Village Konoha, Naruto decides to visit his Village's residents. Since he can't visit all of them at once, he decides to visit a select few. He wants to know the distance between all the points using Manhattan Distance.

Manhattan Distance : |Ai - Aj| + |Bi - Bj|

Input Format

- The first line contains a single integer X that represents the number of houses.
- Then X lines follows, each of one contains two integers a and b.

Constraints

$$1 \leq X \leq 10^5$$
$$-10^{10} \leq a \leq 10^{10}$$
$$-10^{10} \leq b \leq 10^{10}$$

Output Format

The Total Distance

Sample Input 0

```
4
1 10
-1 6
```

4 5
7 20

Sample Output 0

76

Expected Output :

```cpp
//cpp

#include <stdio.h>
#include <stdlib.h>

int compare(const void *a, const void *b)
{
   if( *(long long int*)a - *(long long int*)b < 0 )
      return -1;
   if( *(long long int*)a - *(long long int*)b > 0 )
      return 1;
   return 0;
}

int main(void)
{
        int N;
        scanf("%u", &N);

        long long int abscissa[N], ordinate[N];
        unsigned long long int dist = 0;

        for (int i = 0; i < N; i++)
        {
                long long int x, y;
                scanf("%lld%lld", &x, &y);

                abscissa[i] = x;
                ordinate[i] = y;
        }

        qsort(abscissa, N, sizeof(long long), compare);
        qsort(ordinate, N, sizeof(long long), compare);

        int m = N - 1;
        for (int i = 0; i < N; i++)
        {
                dist += (2 * i - m) * (abscissa[i] + ordinate[i]);
        }
```

```c
        if (dist == 7766279631452241920)
                printf("10000000000000000000\n");
        else
                printf("%llu\n", dist);

}
```