✱ In this problem, we are given a sorted doubly linked list and our job is to return an array of pairs which have a given sum.

Brute force solution is to obviously run two loops with two pointers to find out all pairs whose sum is equal to given sum. Time Complexity is $O(N^2)$ in worst case.

Optimal Solution is to take a pointer to the end of the DLL and treat it as 2 sum problem in a DLL.

C++ :

```cpp
twoSumDLL (Node * head, int K) {
    Node * t1 = head;
    Node * t2 = head;
    int c1 = 1;
    int c2 = 1;
    vector < pair < Node *, Node*>> v;
    while (t2 → next != nullptr) {
        t2 = t2 → next;
        c2 += 1;
    }

    while (c2 > c1) {
```

```cpp
        int  s = t1 -> data  + t2 -> data;
        if (s == K) {
            v.push_back({t1, t2});
        } else if (s < K) {
            t2 = t2 -> prev;
            c2 -= 1;
        } else {
            t1 = t1 -> next;
            c1 += 1;
        }
    }
    return  v;
}
```