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

typedef struct DNode {
    int data;
    struct DNode* prev;
    struct DNode* next;
} DNode;

DNode* createDNode(int data) {
    DNode* newNode = (DNode*)malloc(sizeof(DNode));
    newNode->data = data;
    newNode->prev = NULL;
    newNode->next = NULL;
    return newNode;
}

void printList(DNode* head) {
    DNode* temp = head;
    while (temp) {
        printf("%d <-> ", temp->data);
        temp = temp->next;
    }
    printf("NULL\n");
}

int main() {
    DNode* A = createDNode(10);
    DNode* B = createDNode(20);
    A->next = B;
    B->prev = A;


    printf("Initial List:\n");
    printList(A);

    DNode* C = createDNode(5);
    C->next = A;
    A->prev = C;
    DNode* head = C;
    printf("\nAfter inserting C before A:\n");
    printList(head);
```

```
    C = createDNode(30);
    B->next = C;
    C->prev = B;
    printf("\nAfter inserting C after B:\n");
    printList(head);

    C = createDNode(15);
    C->prev = A;
    C->next = A->next;
    A->next->prev = C;
    A->next = C;
    printf("\nAfter inserting C between A and B:\n");
    printList(head);

    return 0;
}
```

Output

```
Initial List:
10 <-> 20 <-> NULL

After inserting C before A:
5 <-> 10 <-> 20 <-> NULL

After inserting C after B:
5 <-> 10 <-> 20 <-> 30 <-> NULL

After inserting C between A and B:
5 <-> 10 <-> 15 <-> 20 <-> 30 <-> NULL
```