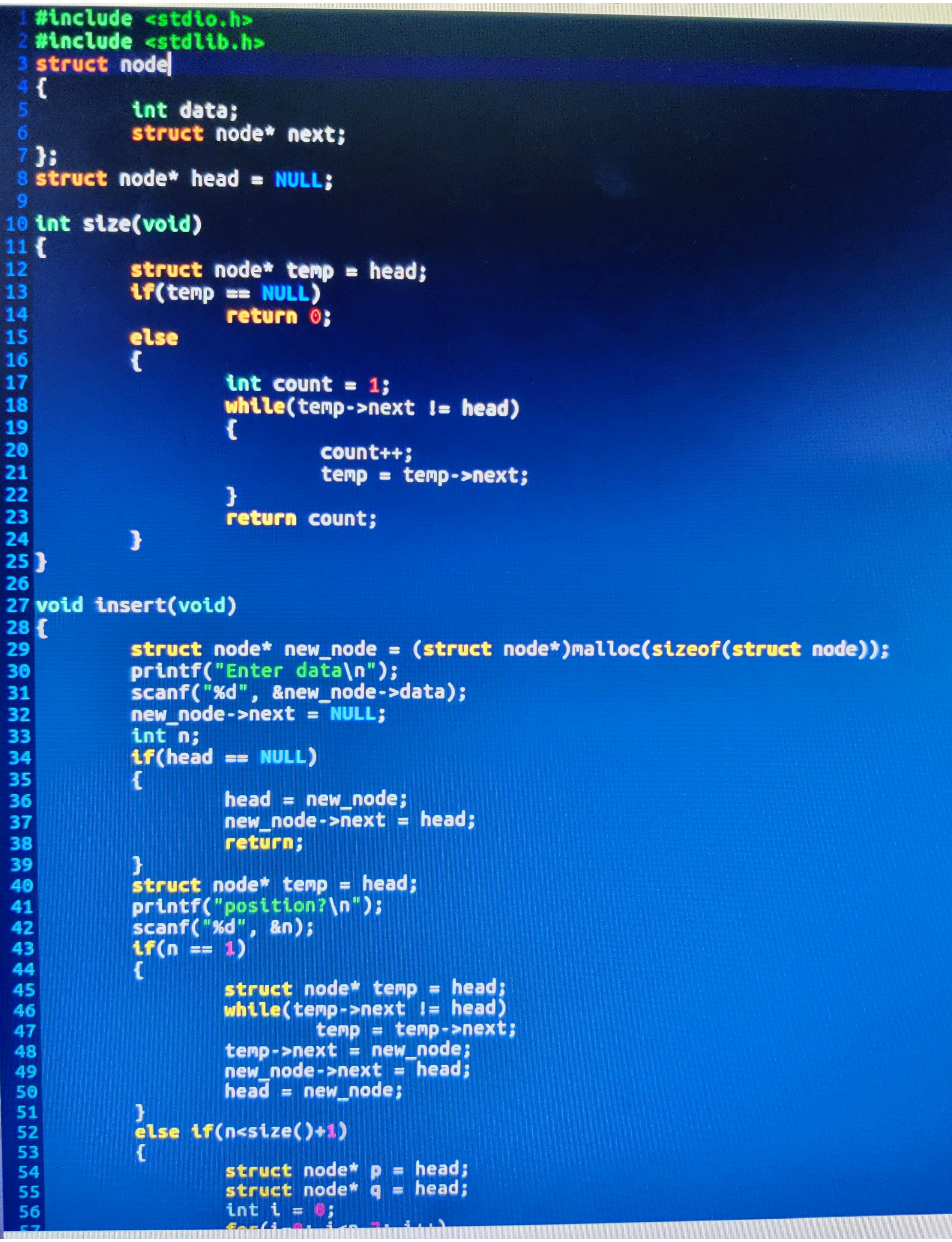
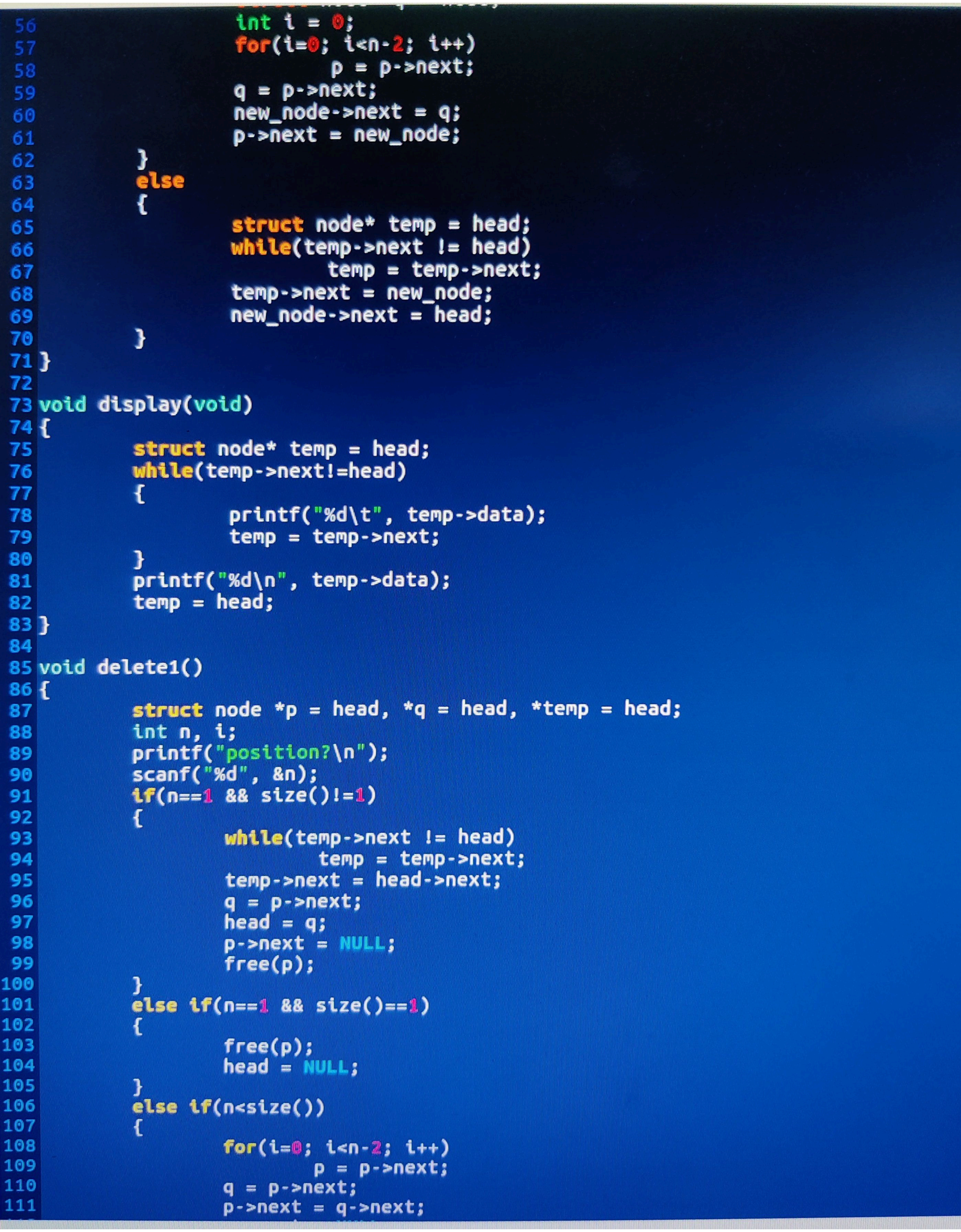
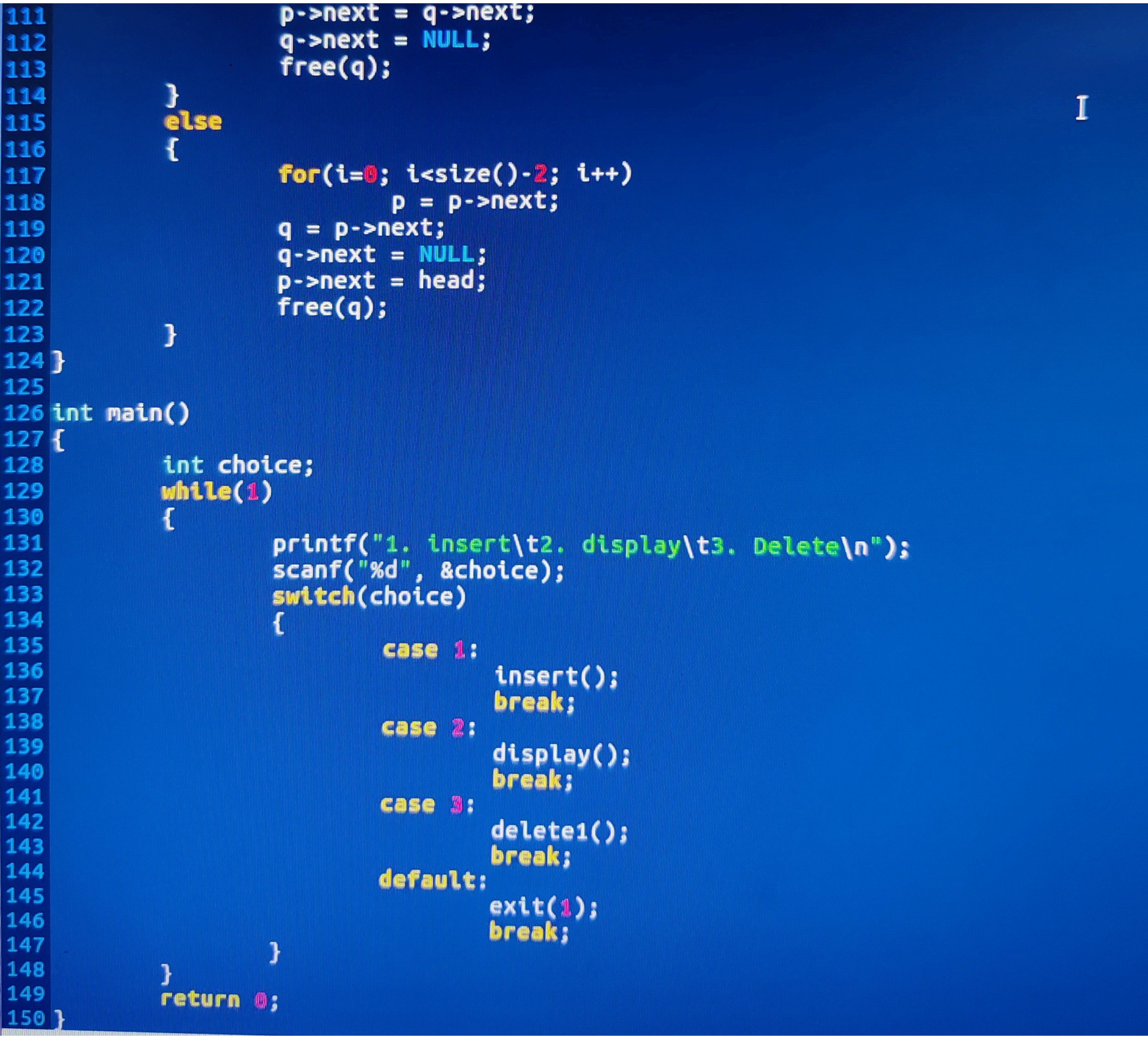


```c
#include <stdio.h>
#include <stdlib.h>
struct node
{
        int data;
        struct node* next;
};
struct node* head = NULL;

int size(void)
{
        struct node* temp = head;
        if(temp == NULL)
                return 0;
        else
        {
                int count = 1;
                while(temp->next != head)
                {
                        count++;
                        temp = temp->next;
                }
                return count;
        }
}

void insert(void)
{
        struct node* new_node = (struct node*)malloc(sizeof(struct node));
        printf("Enter data\n");
        scanf("%d", &new_node->data);
        new_node->next = NULL;
        int n;
        if(head == NULL)
        {
                head = new_node;
                new_node->next = head;
                return;
        }
        struct node* temp = head;
        printf("position?\n");
        scanf("%d", &n);
        if(n == 1)
        {
                struct node* temp = head;
                while(temp->next != head)
                        temp = temp->next;
                temp->next = new_node;
                new_node->next = head;
                head = new_node;
        }
        else if(n<size()+1)
        {
                struct node* p = head;
                struct node* q = head;
                int i = 0;
                for(i=0; i<n-2; i++)
```



```
                int i = 0;
                for(i=0; i<n-2; i++)
                        p = p->next;
                q = p->next;
                new_node->next = q;
                p->next = new_node;
        }
        else
        {
                struct node* temp = head;
                while(temp->next != head)
                        temp = temp->next;
                temp->next = new_node;
                new_node->next = head;
        }
}

void display(void)
{
        struct node* temp = head;
        while(temp->next!=head)
        {
                printf("%d\t", temp->data);
                temp = temp->next;
        }
        printf("%d\n", temp->data);
        temp = head;
}

void delete1()
{
        struct node *p = head, *q = head, *temp = head;
        int n, i;
        printf("position?\n");
        scanf("%d", &n);
        if(n==1 && size()!=1)
        {
                while(temp->next != head)
                        temp = temp->next;
                temp->next = head->next;
                q = p->next;
                head = q;
                p->next = NULL;
                free(p);
        }
        else if(n==1 && size()==1)
        {
                free(p);
                head = NULL;
        }
        else if(n<size())
        {
                for(i=0; i<n-2; i++)
                        p = p->next;
                q = p->next;
                p->next = q->next;
```



```
                p->next = q->next;
                q->next = NULL;
                free(q);
        }
        else
        {
                for(i=0; i<size()-2; i++)
                        p = p->next;
                q = p->next;
                q->next = NULL;
                p->next = head;
                free(q);
        }
}

int main()
{
        int choice;
        while(1)
        {
                printf("1. insert\t2. display\t3. Delete\n");
                scanf("%d", &choice);
                switch(choice)
                {
                        case 1:
                                insert();
                                break;
                        case 2:
                                display();
                                break;
                        case 3:
                                delete1();
                                break;
                        default:
                                exit(1);
                                break;
                }
        }
        return 0;
}
```