Competitive Programming

(https://github.com/MalavikaJayakumar/Competitive-Programming-Problems)

1. **Stack using Linked List**

Code:

```
#include<iostream>
using namespace std;

class stack_ele
{
	public:
	int data;
	stack_ele* down;
};
stack_ele* top;

void push()
{
	stack_ele* n = new stack_ele();
	cout<<"Enter value to insert : ";
	cin>>n->data;
	n->down = top ;
	top = n;
}

void pop()
{
	if(top==NULL)
	{
		cout<<"Stack empty\n";
		return;
	}
	stack_ele* t;
	t=top;
	top=top->down;
	t->down = NULL;
	delete(t);
}

void display()
{
	stack_ele *t = top;
    while (t != NULL)
    {
        cout<<" "<<t->data;
```

```
        t = t->down;
    }
    cout<<endl;
}

int main()
{

    int ch;
    char c='y';
    cout<<"\t\tMENU\n 1.Push\n 2.Pop\n 3.Display\n";
       while(c=='y' || c=='Y')
       {
              cout<<"\nEnter choice(1-3)";
           cin>>ch;
              switch(ch)
              {
                     case 1:push();
                     break;
                     case 2:pop();
                     break;
                     case 3:display();
                     break;
                     default:cout<<"invalid choice";
               }
               cout<<"Do you want to continue:(y/n) ";
               cin>>c;
       }
    return 0;
}
```

Output:

```
                MENU
 1.Push
 2.Pop
 3.Display

Enter choice(1-3)2
Stack empty
Do you want to continue:(y/n) y

Enter choice(1-3)1
Enter value to insert : 23
Do you want to continue:(y/n) y

Enter choice(1-3)1
Enter value to insert : 65
Do you want to continue:(y/n) y

Enter choice(1-3)1
Enter value to insert : 87
Do you want to continue:(y/n) y

Enter choice(1-3)1
Enter value to insert : 665
Do you want to continue:(y/n) y

Enter choice(1-3)2
Do you want to continue:(y/n) y

Enter choice(1-3)3
 87 65 23
Do you want to continue:(y/n) n
```