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Roll No:- 66 **Class:-** SYBCA **Batch:-**
Practical No 2:Implementation of Stack using array

```
#include<iostream.h>
#include<conio.h>
class stack
{
 int *stk,top,max;
 public:
   stack()
    {
     top=-1;
     cout<<"\n Enter the length of stack:";
     cin>>max;
     stk=new int [max];
    }
   void push();
   void pop();
   void show();
   ~stack()
   {
     delete[]stk;
   }
 };
void stack::push()
{
 int item;
 if(top==max-1)
 {
  cout<<"\n Stack is overflow:";
  return;
 }
else
 {
   cout<<"\n Enter the item to be inserted:";
   cin>>item;
   top++;
   stk[top]=item;
  }
}
void stack::pop()
{
  int t;
  if(top==-1)
   {
    cout<<"\n Stack is empty:";
    return;
```

```
    }
   else
    {
    t=stk[top];
    cout<<"\n Element"<<t<<" is deleted:";
    top--;
      }
 }
void stack::show()
 {
  if(top==-1)
    {
     cout<<"Stack is empty:";
     return;
    }
   else
 {
   for(int i=top; i>=0;i--)
    {
     cout<<"\n"<<stk[i];
    }
   }
 }
void main()
{
   clrscr();
   stack obj;
   int ch;
   do
   {
    cout<<"\n1.push\n2.pop\n3.show\n4.exit";
    cout<<"\n Enter your choice:";
    cin>>ch;
    switch (ch)
    {
     case 1: obj.push();break;
     case 2: obj.pop();break;
     case 3: obj.show();
     break;
     case 4: break;
     default: cout<<"\n invalid choice:";
    }
   getch();
}
while(ch!=4);
}
```

Output:

```
Enter the length of stack: 4

1. push
2. pop
3. show
4. exit
Enter your choice: 1

Enter the item to be inserted: 1

1. push
2. pop
3. show
4. exit
Enter your choice: 1

Enter the item to be inserted: 2

1. push
2. pop
3. show
4. exit
Enter your choice: 1

Enter the item to be inserted: 3

1. push
2. pop
3. show
4. exit
Enter your choice: 1

Enter the item to be inserted: 4

1. push
2. pop
3. show
4. exit
Enter your choice: 1

stack is overflow

1. push
2. pop
3. show
4. exit
Enter your choice: 3
```

4
3
2
1

1. push
2. pop
3. show
4. exit
Enter your choice: 2

Element 4 is deleted

1. push
2. pop
3. show
4. exit
Enter your choice: 2

Element 3 is deleted

1. push
2. pop
3. show
4. exit
Enter your choice: 2

Element 2 is deleted

1. push
2. pop
3. show
4. exit
Enter your choice: 2

Element 1 is deleted

1. push
2. pop
3. show
4. exit
E nter your choice: 3

stack is empty