

# Generalizing the Stack

# Old Stack

```
class MyStack {  
    StackObject [] arr;  
    int StackTop;  
    public MyStack() {}  
  
    public void push (StackObject o) {}  
    public StackObject pop () {}  
}
```

# New Version

```
class MyStack {  
    Object [] arr;  
    int StackTop;  
    public MyStack() {}  
  
    public void push (Object o) {}  
    public Object pop () {}  
}
```

```
public MyStack() {  
    arr = new StackObject[20];  
    StackTop = -1;  
}
```

---

```
public MyStack() {  
    arr = new Object[20];  
    StackTop = -1;  
}
```

```
public void push (StackObject o) {  
    StackTop++;  
    arr[StackTop] = o;  
}
```

---

```
public void push (Object o) {  
    StackTop++;  
    arr[StackTop] = o;  
}
```

```
public StackObject pop () {  
    if (StackTop == -1) {return null;}  
    else {  
        StackTop--;  
        return arr[StackTop + 1];  
    }  
}
```

---

---

```
public Object pop() {}
```

# In Main: Casting

```
StackObject ObjectOnTop;  
MyStack sta = new MyStack();  
sta.push(new StackObject(str[i],i));  
ObjectOnTop = sta.pop();  
System.out.println(ObjectOnTop.cr);
```

---

```
StackObject ObjectOnTop;  
MyStack sta = new MyStack();  
sta.push(new StackObject(str[i],i));  
ObjectOnTop = (StackObject) sta.pop();  
System.out.println(ObjectOnTop.cr);
```

# New Stack is General

```
MyStack sta1 = new MyStack();  
sta1.push("Kasturi");  
sta1.push("Data Structures");  
String strA = (String) sta1.pop();  
String strB = (String) sta1.pop();
```