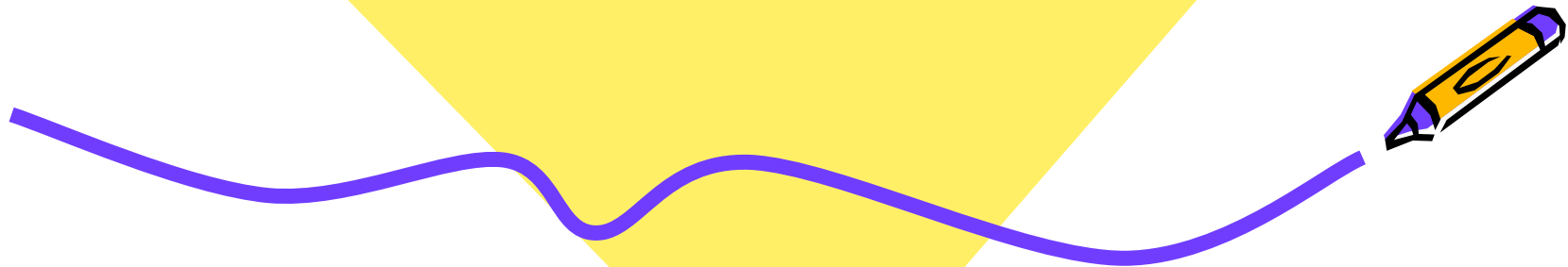


Chapter 16 Creating and Searching a Database

Xin Miao

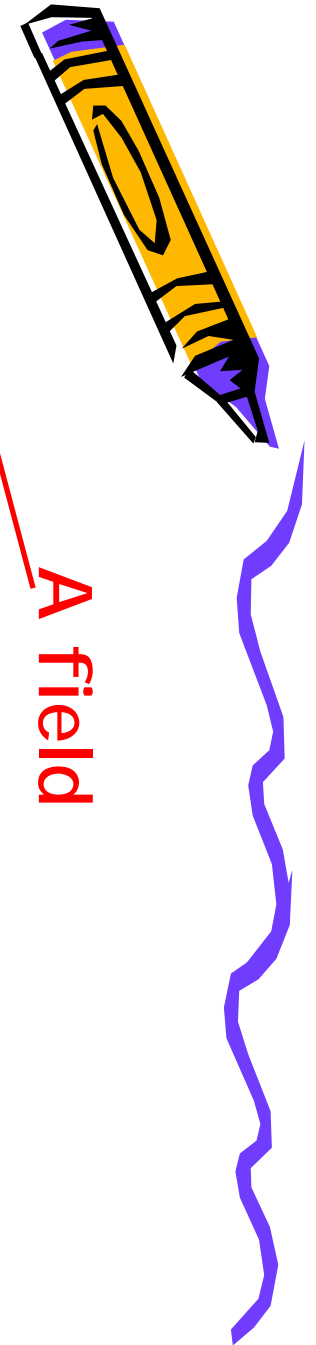


What is a Database?

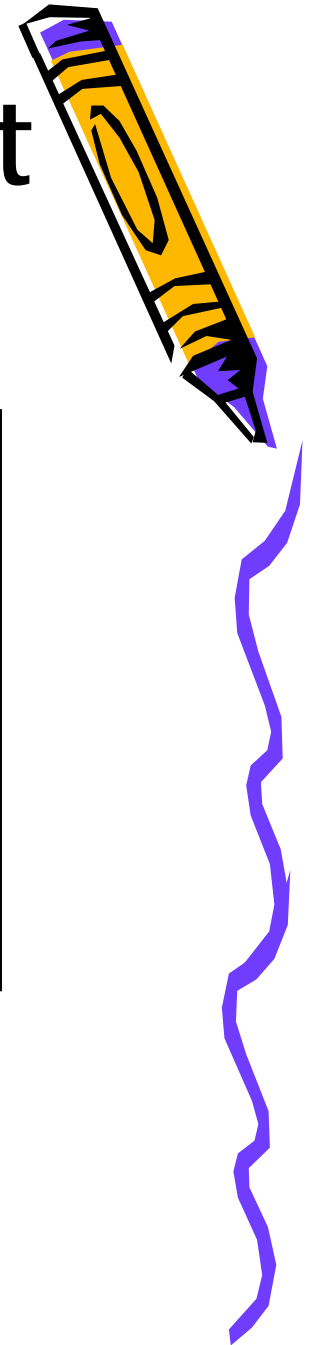
Name	Address	Phone
Bill	123 Main St.	321-4567
Emily	65 Oriole Dr.	487-0246
John	294 Amherst Av.	732-7457
Sarah	98 Stanford P.	487-3123

A field

A record



Use “objects” to implement a Database



Name	Address	Phone
Bill	123 Main St.	321-4567
Emily	65 Oriole Dr.	487-0246
John	294 Amherst Av.	732-7457
Sarah	98 Stanford P.	487-3123

A **Object** with 3 Properties:

Name, **Address** and **Phone**



Create Custom Objects (1)

- `Var someImage= new Image (69,120)`
- Create an instance of the Image object

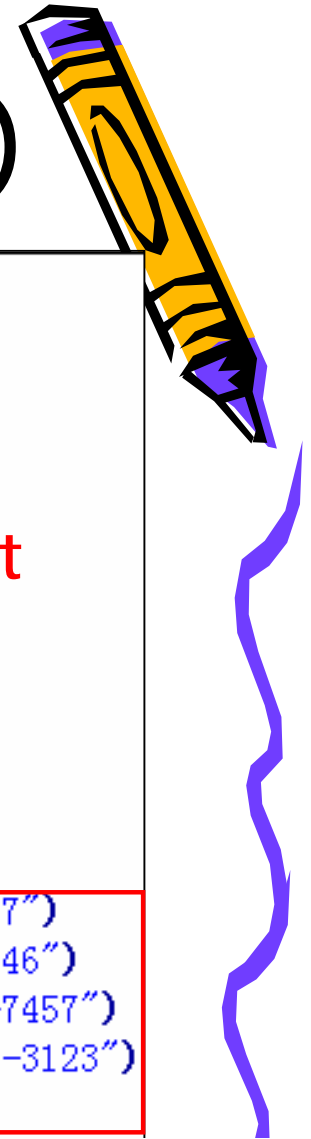


Define a Object

Instances of the object

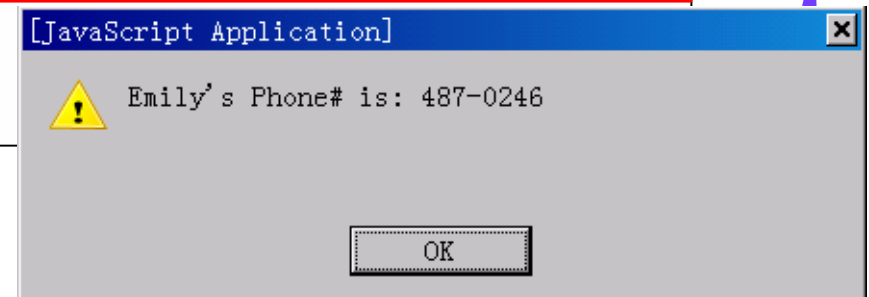
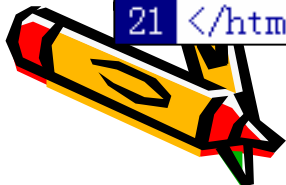


Create Custom Objects (2)



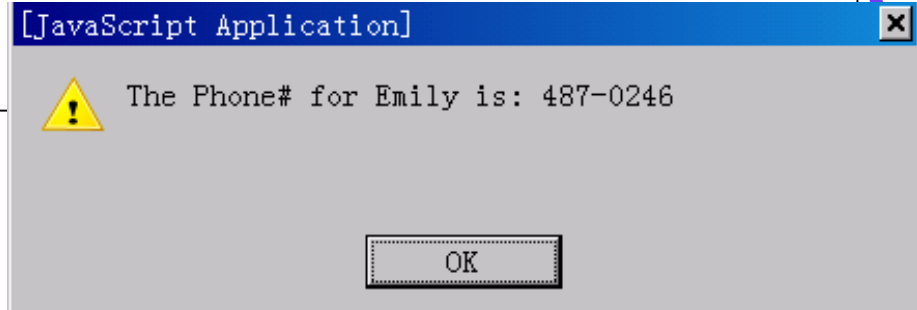
```
1 <html>
2 <head>
3   <title>Database Demo</title>
4   <script type="text/javascript">
5     function recordEntry(nm, adr, ph) {
6       this.name=nm
7       this.address=adr
8       this.phone=ph
9     }
10  </script>
11 </head>
12 <body>
13   <script type="text/javascript">
14     var firstRecord=new recordEntry("Bill", "123 Main Street", "321-4567")
15     var secondRecord=new recordEntry("Emily", "65 Oriole Drive", "487-0246")
16     var thirdRecord=new recordEntry("John", "294 Amherst Avenue", "732-7457")
17     var fourthRecord=new recordEntry("Sarah", "98 Stanford Place", "487-3123")
18     alert(secondRecord.name+"s Phone# is: "+secondRecord.phone)
19   </script>
20 </body>
21 </html>
```

this -> this object



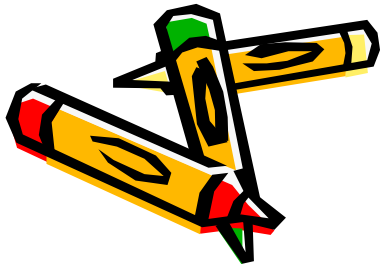
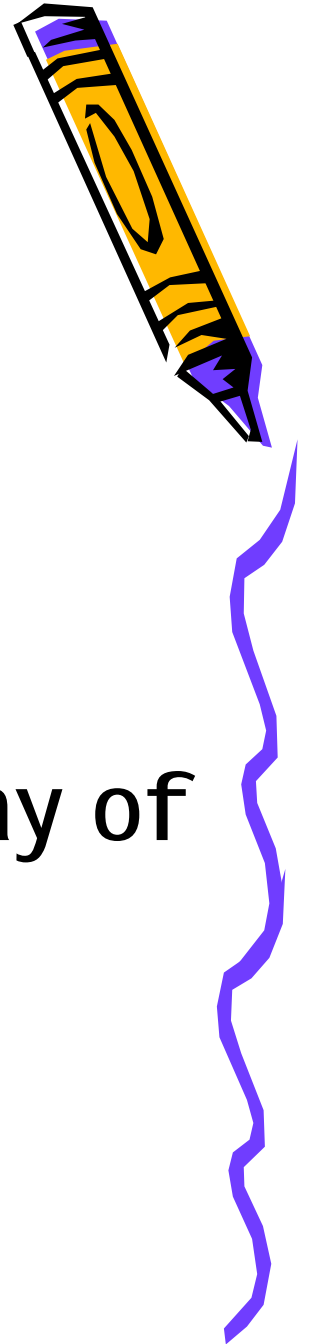
A Database as an Array of Objects

```
12 <body>
13   <script type="text/javascript">
14     var records =new Array(4)      Define an Object Array
15     records[0] =new recordEntry("Bill", "123 Main Street", "321-4567")
16     records[1] =new recordEntry("Emily", "65 Oriole Drive", "487-0246")
17     records[2] =new recordEntry("John", "294 Amherst Avenue", "732-7457")
18     records[3]= new recordEntry("Sarah", "98 Stanford Place", "487-3123")
19     var ctr
20     for (ctr =0; ctr<4; ctr++) {
21       if (records[ctr].name == "Emily") {
22         alert("The Phone# for Emily is: " + records[ctr].phone)
23       }
24     }
25   </script>
26 </body>
```



Summary

- Basic concepts of databases;
- Create your own objects with custom-designed properties;
- Create a database using an array of objects;
- Search a database.



Lab Exercises for Ch16

- Lab Ex. **16.1, 16.2** (P.462-463)
- 16.2-part4 & part5 are optional.

