JSP

JSP file should have presentation logic i.e. markup syntax (tags).

Ideal JSP do not have any java code in it (i.e. scriptlets or expression).
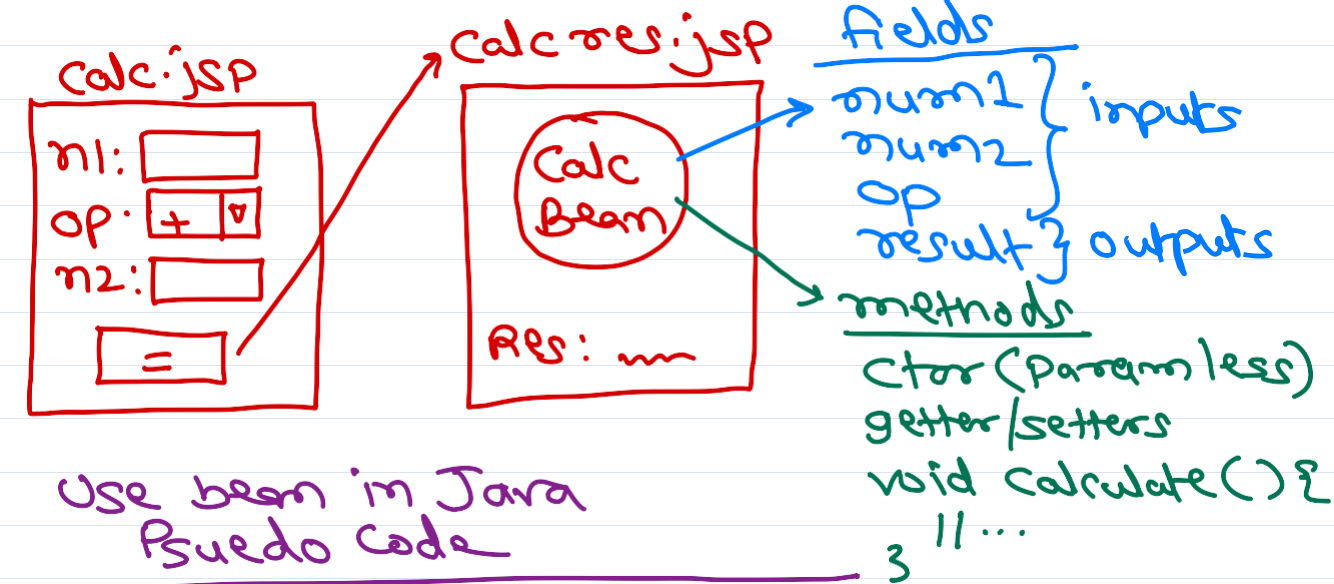
To reduce scriptlets from JSP pages:
① JSP standard actions
② Java beans
③ JSP EL
④ JSTL tags
⑤ Custom tags

Java Beans

$$Java\ Bean = fields + ctor + getter/setter + business\ logic\ method(s).$$

Calc.jsp

Calc res.jsp

n1: [ ]
op: [+ ▼]
n2: [ ]

[=]

Calc Bean

Res: ~~

fields
num1 }
num2 } inputs
op
result } outputs

methods
ctor (param less)
getter/setters
void calculate() {
   //...
}

Use bean in Java
Psuedo Code
_____

`CalcBean cb = new CalcBean();`

`cb.setNum1(req.getParameter("num1"));`
`cb.setNum2(req.getParameter("num2"));`
`cb.setOp(req.getParameter("op"));`

`println(cb.getResult());`

```jsp
<jsp:useBean id="cb"
          class="pkg.CalcBean"/>
```

```jsp
<jsp:setProperty name="cb"
property="num1" param="num1"/>
<jsp:setProperty name="cb"
property="num2" param="num2"/>
<jsp:setProperty name="cb"
property="op" param="op"/>
```
field name ↑   ↑ req param name

```jsp
<% cb.calculate(); %>
```

```jsp
<jsp:getProperty name="cb"
          property="result"/>
```

Java Beans

fields: email, password, User

method:
```
authenticate() {
    // jdbc code
    or call dao.
}
```

Login Bean

demo6:jsp

email ☐
pass ☐

[Sign In]

login bean.jsp

```
<jsp:useBean id="lb" class="pkg.LoginBean"/>
    // LoginBean   lb = new LoginBean();
<jsp:setProperty name="lb" property="email" param="email"/>
    // lb.setEmail(request.getParameter("email"));
<jsp:setProperty name="lb" property="password" param="passwd"/>
    // lb.setPassword(request.getParameter("passwd"));
<% lb.authenticate(); %>
<% if(lb.getUser() != null) { %>
    Welcome, <jsp:getProperty name="lb" property="email"/>
                            // lb.getEmail() → o/p in resp.
<% } else { %>
    Failed
<% } %>
```

Java Bean Scopes

Scope   default Scope →   attribute of

① page (lowest)   → Page Context → accessible in cur req to cur page only.

② request   → Http Servlet Request → accessible on all pages where cur req is fwd on incl.

③ session   → HttpSession → accessible in all req to all pages for cur user.

④ application (highest) → Servlet Content → accessible in all req to all pages for all users

```
<jsp:useBean id="lb"
class="Pkg.LoginBean" scope="session"/>
```

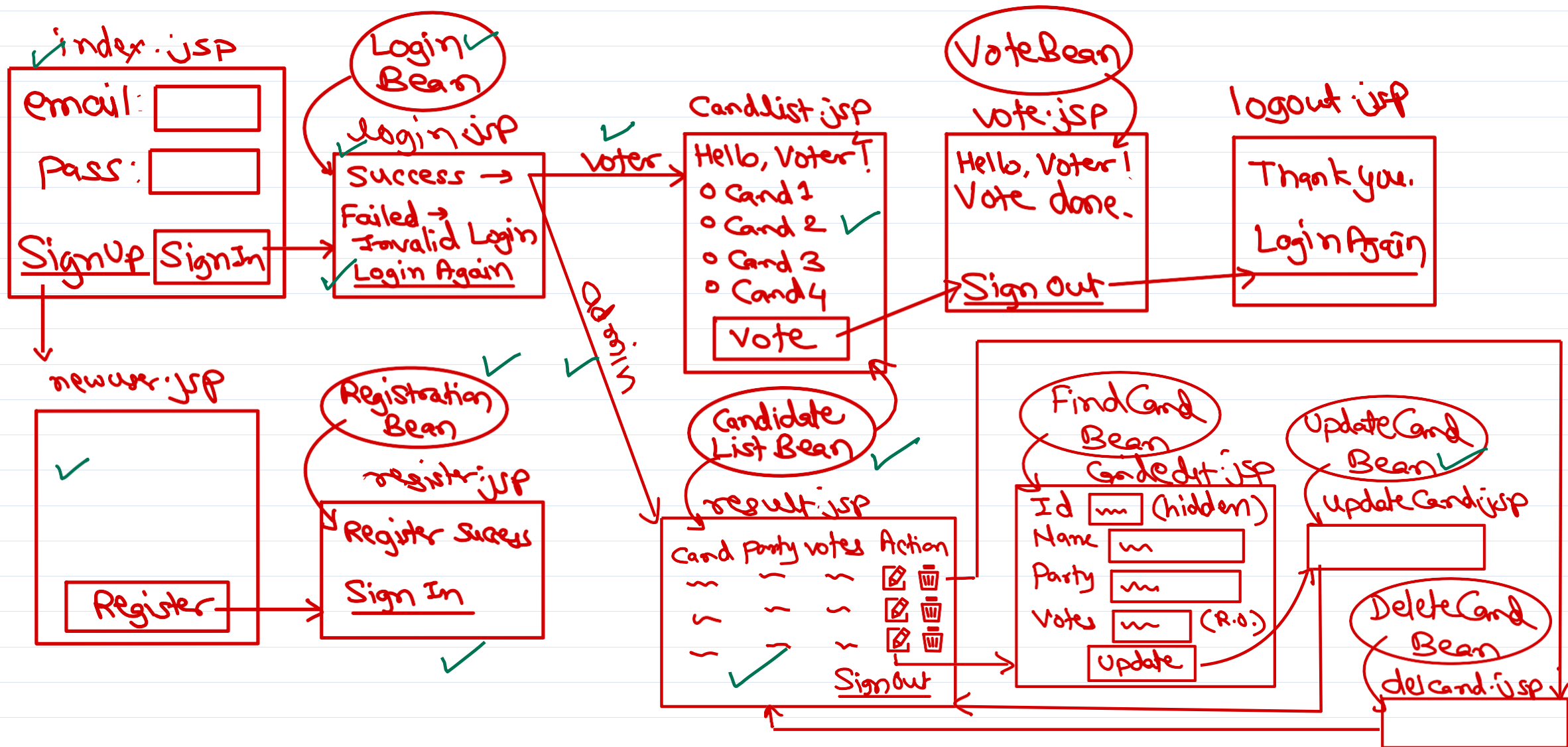① check if given bean is avail in given scope. if avail access it.

② if not avail, create a new bean and add it into that scope.

LoginBean lb
= session.getAttr("lb");
if(lb == null){
    lb = new LoginBean();
}
Session.setAttr("lb", lb);

To access bean obj or do set Property/get Prop in a page useBean must be done above in page.

Election Management

predefined tag lib by Sun micro System.

JSTL 5 main Components:

① Core → redirect, vars, if, choose, for Each, ...
② fmt → number/currency/date formatting
③ functions → String ops e.g length, ...
④ xml → xml generation & parsing
⑤ Sql → execute Sql queries from JSP pages.