

CST8257 Web Application Development

Lab 3

Objective

1. Form Validation – Self posting

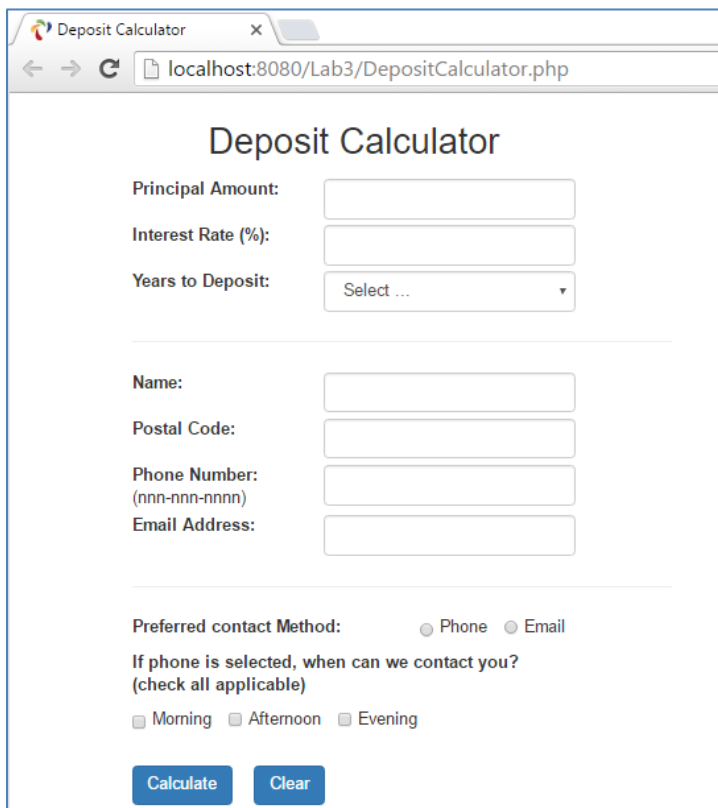
Due Date

See Brightspace posting for the due date. To earn 5 points, you are required:

1. Complete the lab as required.
2. Submit your lab work to the Brightspace before the due date.
3. Demo me your lab work in the week after due date.

Requirements

1. Combine html page **DepositCalculator.html** and PHP page **DepositCalculator.php** you created in lab 2 into one page page **DepositCalculator.php**. When accessed, this php page represents the user a web form as below:



The screenshot shows a web browser window titled "Deposit Calculator" with the address bar displaying "localhost:8080/Lab3/DepositCalculator.php". The form itself has a title "Deposit Calculator" and contains the following fields and controls:

- Principal Amount:** A text input field.
- Interest Rate (%):** A text input field.
- Years to Deposit:** A dropdown menu with "Select ..." as the current selection.
- Name:** A text input field.
- Postal Code:** A text input field.
- Phone Number:** A text input field with a placeholder "(nnn-nnn-nnnn)".
- Email Address:** A text input field.
- Preferred contact Method:** Two radio buttons labeled "Phone" and "Email".
- If phone is selected, when can we contact you? (check all applicable):** Three checkboxes labeled "Morning", "Afternoon", and "Evening".
- Buttons:** Two buttons at the bottom, "Calculate" and "Clear".

2. Once the user clicks the Calculate button, the web form is submitted to **DepositCalculator.php** page itself. This page will then validate the data entered by the user according to the following rules:
- The user must enter data in all fields, no field can be blank.
 - Principal Amount must be numeric and greater than zero.
 - Interest Rate must be numeric and not negative.
 - Number of years to deposit must be a numeric between 1 and 20.
 - Postal code must be in the form of XnX nXn, where X is an upper- or lower-case letter and n is a digit from 0 to 9, with or without space between the first 3 characters and the last 3 characters.
 - Phone number must be in the form of nnn-xxx-xxxx where n is a digit, the first n in the first and the second 3-digit groups cannot be 0 or 1.
 - Email must be in the form of [aaa@xxx.yyy](#) where **aaa** and **xxx** is a character (including dot “.”) string of any length, **yyy** is a 2 to 4 characters string.

If the submitted form fails to pass the validation, the page displays the same web form again with error messages next to the invalid fields as shown below:

The screenshot shows a web browser window titled "Deposit Calculator" with the URL "localhost:8080/Lab3/DepositCalculator.php". The form is titled "Deposit Calculator" and contains the following fields and error messages:

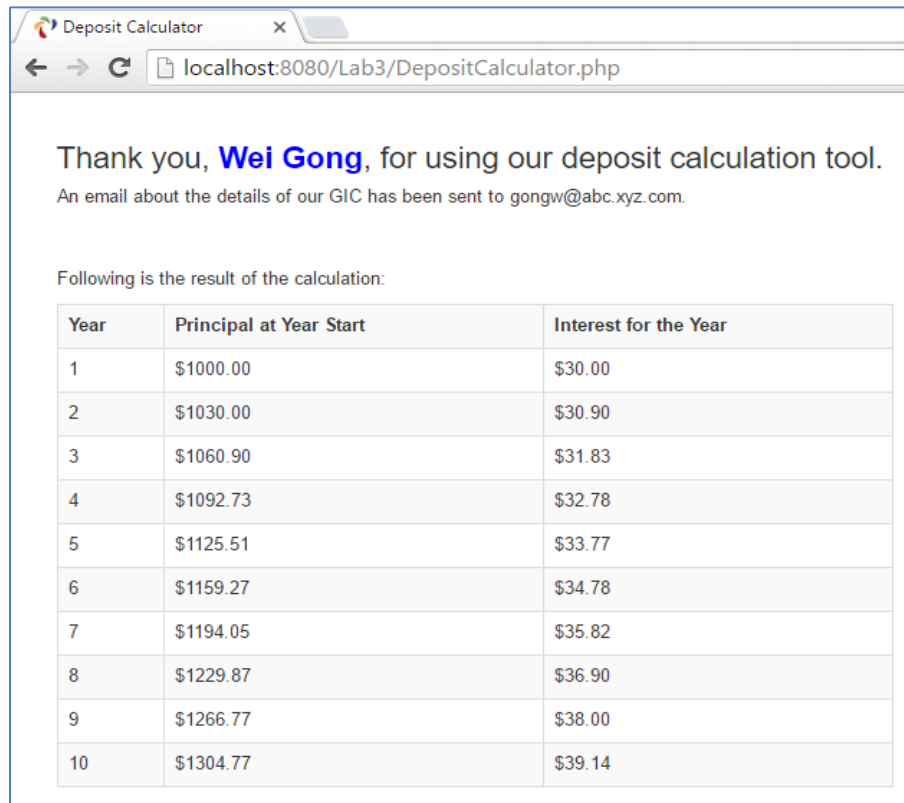
- Principal Amount:** Input field contains "\$1000". Error message: "Principal amount must be a numeric".
- Interest Rate (%):** Input field contains "-3". Error message: "Interest rate must be non-negative".
- Years to Deposit:** Dropdown menu shows "10".
- Name:** Input field is empty. Error message: "Name is required".
- Postal Code:** Input field contains "K7M3G". Error message: "Incorrect Postal Code".
- Phone Number:** Input field contains "6135990901". Error message: "Incorrect phone number".
- Email Address:** Input field contains "gongw@abc.xyz.com".

Below the input fields, there are radio buttons for "Preferred contact Method:" with "Phone" selected and "Email" unselected. Below this, a text label says "If phone is selected, when can we contact you? (check all applicable)". There are three checkboxes: "Morning", "Afternoon", and "Evening", all of which are unselected. Error message: "When preferred contact method is phone, you have to select contact time".

At the bottom of the form are two buttons: "Calculate" and "Clear".

Besides presenting the error messages, the page should have the following properties:

- To improve usability, all the user's previous entered values should be preserved so that the user does have to re-enter valid values and only easily see what's wrong with the invalid fields and revise accordingly.
 - When the Clear button is click, all the entered values should be cleared so that the web form is presented in its initial state as in 1.
3. If all fields are valid, the page will present the result of calculation as below:



Thank you, **Wei Gong**, for using our deposit calculation tool.

An email about the details of our GIC has been sent to gongw@abc.xyz.com.

Following is the result of the calculation:

Year	Principal at Year Start	Interest for the Year
1	\$1000.00	\$30.00
2	\$1030.00	\$30.90
3	\$1060.90	\$31.83
4	\$1092.73	\$32.78
5	\$1125.51	\$33.77
6	\$1159.27	\$34.78
7	\$1194.05	\$35.82
8	\$1229.87	\$36.90
9	\$1266.77	\$38.00
10	\$1304.77	\$39.14

4. Besides satisfy the above requirements, your PHP page should define and use the following PHP functions to validate user inputs. If the validation fails, they return the relevant error message, otherwise, an empty string:

```
function ValidatePrincipal($amount) { ... }  
function ValidateRate($amount) { ... }  
function ValidateYears($years) { ... }  
function ValidateName($name) { ... }  
function ValidatePostalCode($postalCode) { ... }  
function ValidatePhone($phone) { ... }  
function ValidateEmail($email) { ... }
```