

CST8257 Web Application Development

Lab 2

Objective

1. Understand the structures of PHP pages
2. Understand how a PHP page is processed and how PHP scripts get input from web pages
3. Understand how a PHP page creates its outputs

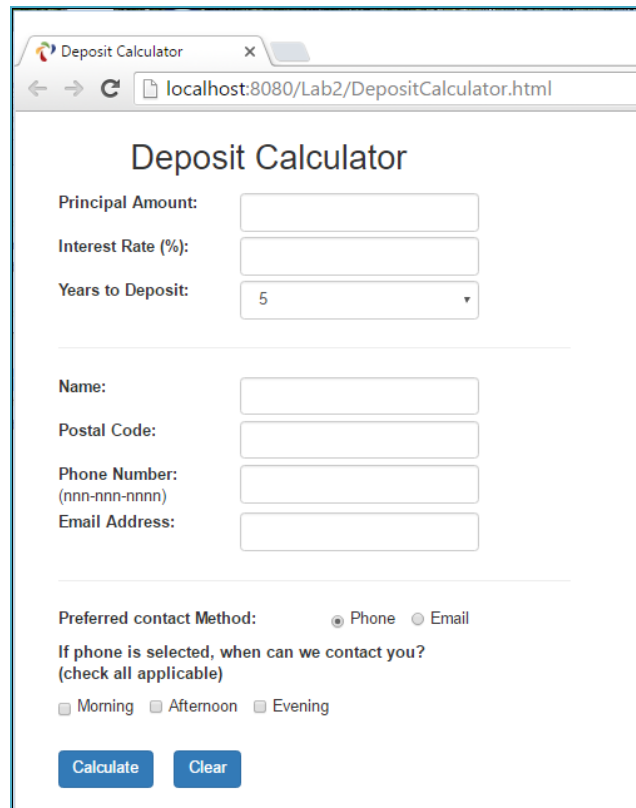
Due Date

See Brightspace for the due date of this lab. 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 during the lab session in the week after the due date.

Requirements

1. Create a HTML page, “DepositCalculator.html”.



The screenshot shows a web browser window with the title 'Deposit Calculator'. The address bar shows 'localhost:8080/Lab2/DepositCalculator.html'. The form itself has the title 'Deposit Calculator' and contains the following elements:

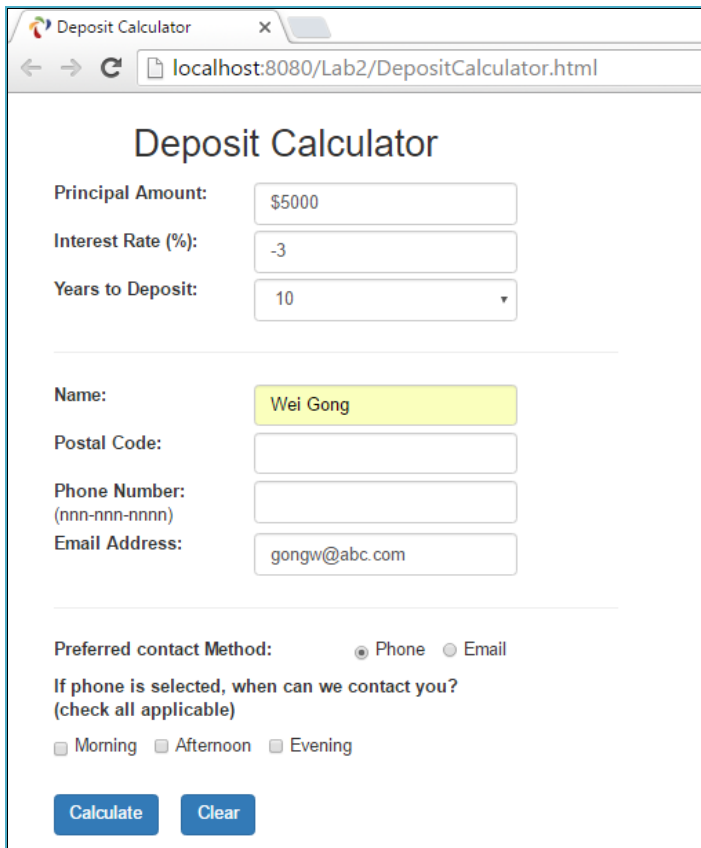
- Principal Amount:** A text input field.
- Interest Rate (%):** A text input field.
- Years to Deposit:** A dropdown menu with '5' selected.
- Name:** A text input field.
- Postal Code:** A text input field.
- Phone Number:** A text input field with the hint '(nnn-xxx-xxxx)' below it.
- Email Address:** A text input field.
- Preferred contact Method:** Two radio buttons, 'Phone' (selected) and 'Email'.
- If phone is selected, when can we contact you? (check all applicable):** Three checkboxes for 'Morning', 'Afternoon', and 'Evening'.
- Buttons:** 'Calculate' and 'Clear' buttons at the bottom.

Note: Years to Deposit field is a **dropdown** list with the selection from 1 to 20.

- When **Calculate** button is clicked, the form should be submitted to a PHP page, **DepositCalculator.php**.
- Write PHP page **DepositCalculator.php** which 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 number from 1 to 20 selection from a **dropdown** list.
 - When a user select phone as his/her preferred contact method, he/she must select one or more contact times (morning, afternoon and/or evening).

For now, we will accept any non-blank string entered in the fields of postal code, phone or email as valid entries. We will learn how to validate a string against a particular format using Regular Express in our next lecture/lab.

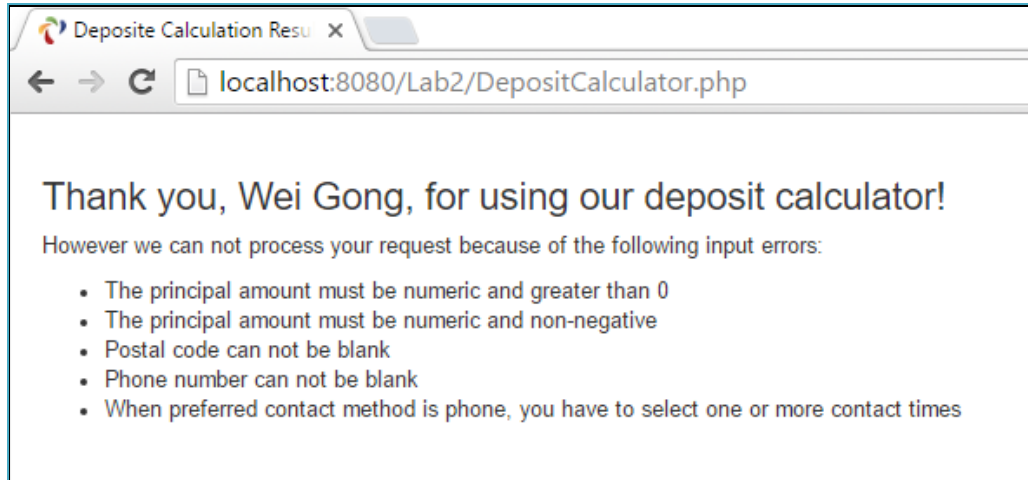
- If the submitted form fails to pass the validation, “DepositCalculator.php” display an error page **listing all rule violations in the submitted form**. For example if the user submitted a form with the data as show below:



The screenshot shows a web browser window with the title "Deposit Calculator" and the address bar showing "localhost:8080/Lab2/DepositCalculator.html". The form itself has the title "Deposit Calculator" and contains the following fields and controls:

- Principal Amount: Text input with value "\$5000".
- Interest Rate (%): Text input with value "-3".
- Years to Deposit: Dropdown menu with value "10".
- Name: Text input with value "Wei Gong".
- Postal Code: Text input.
- Phone Number: Text input with placeholder "(nnn-nnn-nnnn)".
- Email Address: Text input with value "gongw@abc.com".
- Preferred contact Method: Radio buttons for "Phone" (selected) and "Email".
- If phone is selected, when can we contact you? (check all applicable): Checkboxes for "Morning", "Afternoon", and "Evening".
- Buttons: "Calculate" and "Clear".

“DepositCalculator.php” will presents the user with following page:



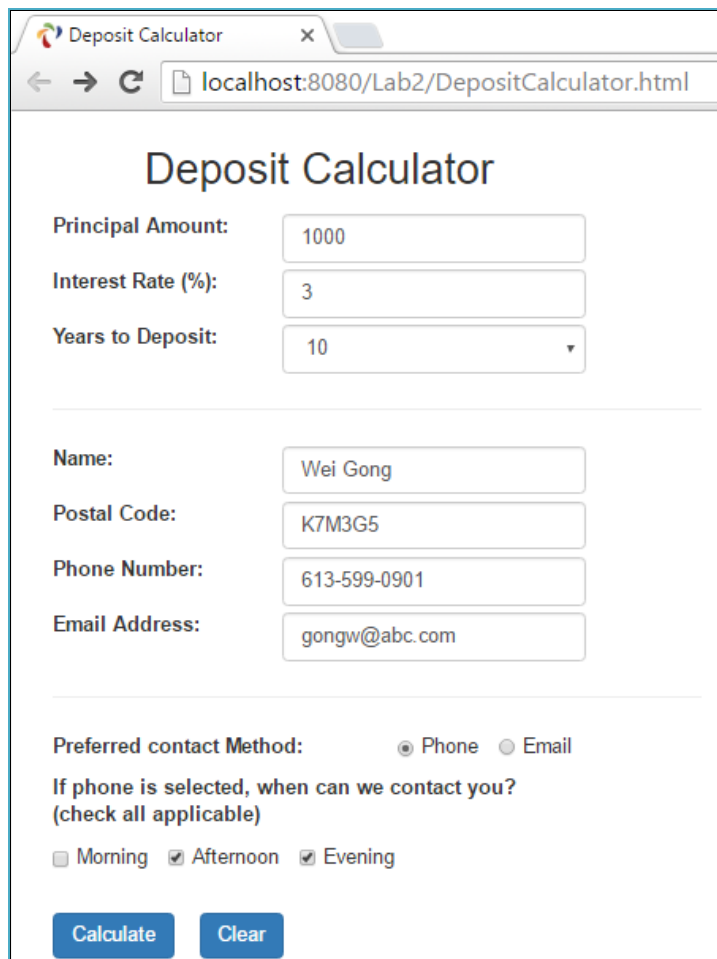
The screenshot shows a web browser window with the title "Deposite Calculation Resu" and the address bar displaying "localhost:8080/Lab2/DepositCalculator.php". The main content area displays a thank-you message and a list of input errors.

Thank you, Wei Gong, for using our deposit calculator!

However we can not process your request because of the following input errors:

- The principal amount must be numeric and greater than 0
- The principal amount must be numeric and non-negative
- Postal code can not be blank
- Phone number can not be blank
- When preferred contact method is phone, you have to select one or more contact times

5. If the submitted form passes validation, “DepositCalculator.php” calculates the interest payment and the total amount for the number of years selected by the user and present the results to the user in a page similar to the following one:



The screenshot shows a web browser window with the title "Deposit Calculator" and the address bar displaying "localhost:8080/Lab2/DepositCalculator.html". The form contains fields for Principal Amount, Interest Rate (%), Years to Deposit, Name, Postal Code, Phone Number, and Email Address. It also includes radio buttons for Preferred contact Method (Phone, Email) and checkboxes for Morning, Afternoon, and Evening contact times. There are "Calculate" and "Clear" buttons at the bottom.

Deposit Calculator

Principal Amount:

Interest Rate (%):

Years to Deposit:

Name:

Postal Code:

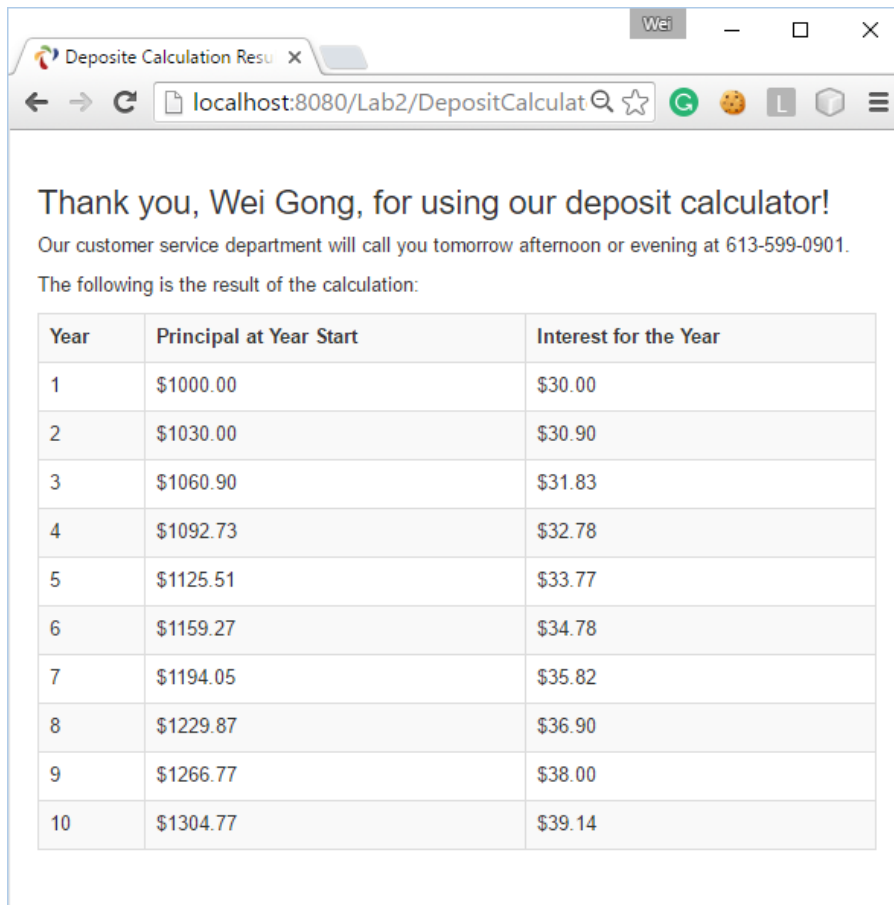
Phone Number:

Email Address:

Preferred contact Method: ☒ Phone ☐ Email

If phone is selected, when can we contact you?
(check all applicable)

☐ Morning ☒ Afternoon ☒ Evening



Thank you, Wei Gong, for using our deposit calculator!

Our customer service department will call you tomorrow afternoon or evening at 613-599-0901.

The 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

Hints:

- Use php built-in function `trim()` to remove leading and trailing blank from a string.
- Use function `is_numeric()` to check if an entered text string is a numeric string.
- Use function `isset()` to check if a variable has ever be assigned a value (a.k.a set).

For a checkbox (or a group of checkboxes), if none is checked, the corresponding variable in `$_POST` or `$_GET` will not be set.

- Use function `printf()` to format the monetary amount to the 2nd digits after decimal point.
- **You are required to style your page properly.** At minimum, the elements on the page should be aligned and spaced properly. Up to 2 points will be deducted for a un-styled or poorly-styled page. Bootstrap is the de facto industry standard CSS framework you should know. You can go to the following website to learn (or refresh) the basics about Bootstrap.

<http://www.w3schools.com/bootstrap/>