

Programming Logic - Beginning

152-101

Currency Converter Program

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| 20 points |
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General Program Requirements

Create a program to help students studying abroad do currency conversion. Your program should ask the user to enter the current exchange rates (for \$1) for Japanese yen, British pounds and Euro. The program should allow the user to enter the date the exchange rates were researched. Finally, the user should be allowed to enter how many dollars they would like converted. The program should then calculate the equivalent number of yen, pounds and Euro and display them on the screen. The exchange rates are only good for 5 days, so the program should also display when the rates expire.

Program Design

- Follow the design you created for this program in Unit 3.
- If necessary, update the design
- **Submit the design with your program**

Detailed Program Requirements

Use group boxes (appropriately labeled) to group similar data.

When the form loads (not at design time), change the date picker's value to the date you did your research (check out finance.yahoo.com/currency). Do NOT use the Today function—that will change every time you run the program.

When the form loads (not at design time), display the rates you researched in textboxes on the form. The user will still be able to clear or replace these values, but I would like see the numbers you researched.

Provide a button to clear the form input and output fields. Reset the exchange date field to the current date.

Make the calculate button the form's Accept Button. Make the Clear button the form's Cancel button.

After calculating the equivalent foreign currency, format the exchange rates (TextBoxes) to show 4 decimal places (regardless what the user entered). Format the amount to convert (TextBox) to currency, 2 decimal places. Format all the equivalent foreign currency values to show 2 decimal places.

Use the Internet (or any other source) to locate images of British, Japanese and Euro currency. Place these near each of the equivalent currency amounts. Create a professional appearance for the form.

If the user enters invalid exchange rates or exchange amounts, display an appropriate error message.

Include a Welcome Screen for this project. You may use your Unit 3 Welcome screen, but customize the welcome screen for this program. Display the Welcome Screen for 5 seconds. Provide buttons to exit the program without launching the main form and another button to start the program immediately, without waiting for the timer.

Follow the class [programming standards](#), incorporating all highlighted standards.

Challenge Points - 2 points

Do research on the **char** data type and Unicode character values. Determine the Unicode character values for the yen symbol (¥), the pound symbol (£) and the euro (€). When the form loads (not at design time), append the appropriate symbol to the label you used on the yen, pound and euro exchange values. Surround the symbols with parenthesis.



Challenge Points - 1 point EACH

- Add a version number display in an appropriate place on the main form. You may only earn this challenge point once for Unit 4 assignments.
- Display the rate expiration date in a **custom format** of your choice. You may only earn this challenge point once for Unit 4 assignments.
- Anchor the form buttons, the version number (if provided) and any other appropriate objects to the appropriate locations of the form so they move appropriately when the form is resized. You may only earn this challenge point once for Unit 4 assignments.