

LAB 9 – JavaScript

At the end of this lab, students should be able to:

- Insert JavaScript codes into a HTML document.
- Retrieve data from forms to be processed and display the required output.
- Incorporate JavaScript built-in functions as well as user defined functions to process data from forms.
- Use `getElementById` and HTML DOM `innerHTML` property in JavaScript codes.
- Validate forms before data is being retrieved for processing.

Question 1

This JavaScript program will do a chosen mathematical operation on two numbers.

- When the button is clicked, it will trigger function `validate()`.
- In function `validate()`:
 - Get the 2 numbers and the type of mathematical operation from the form.
 - Make sure the numbers are filled and only numbers are accepted. Display an error message otherwise.
 - If all values from the form are valid, call function `calculate(...)` and pass both numbers and operation as arguments.
- In function `calculate(...)`:
 - Use a switch case statement to identify the operation and calculate the result.
 - Display the result at the appropriate place as shown below.

<p>Number 1 : <input type="text"/></p> <p>Please enter correct number</p> <p>Number 2 : <input type="text"/></p> <p>Please enter correct number</p> <p>Operation : <input type="radio"/> + <input type="radio"/> - <input type="radio"/> ×</p> <p>Please choose an operation</p> <p><input type="button" value="Calculate"/></p>	<p>Number 1 : <input type="text" value="abc"/></p> <p>Please enter correct number</p> <p>Number 2 : <input type="text" value="xyz"/></p> <p>Please enter correct number</p> <p>Operation : <input type="radio"/> + <input type="radio"/> - <input type="radio"/> ×</p> <p>Please choose an operation</p> <p><input type="button" value="Calculate"/></p>
<p>Number 1 : <input type="text" value="4"/></p> <p>Number 2 : <input type="text" value="12"/></p> <p>Operation : <input type="radio"/> + <input type="radio"/> - <input type="radio"/> ×</p> <p>Please choose an operation</p> <p><input type="button" value="Calculate"/></p>	<p>Number 1 : <input type="text" value="4"/></p> <p>Number 2 : <input type="text" value="12"/></p> <p>Operation : <input type="radio"/> + <input checked="" type="radio"/> - <input type="radio"/> ×</p> <p><input type="button" value="Calculate"/></p> <p>4-12=-8</p>

Question 2

This JavaScript program will calculate the bill for the purchase of stationery.

- When the button is clicked, it will trigger function *check()*.
- In function *check()*:
 - Get the quantity and item from the form.
 - Make sure the values are filled. Display an error message otherwise.
 - Use a switch case statement to identify the stationery name and price. You may set your own price for the items.
 - If all items were filled correctly, call function *get_bill(...)* and pass quantity, item name and item price as arguments.
- In function *get_bill(...)*:
 - Calculate the bill for the purchase.
 - Display as shown below.

Quantity : <input type="text"/> Please enter quantity Operation : <input type="text" value="Choose an item"/> Select an item <input type="button" value="Get Bill"/>	Quantity : <input type="text" value="15"/> Operation : <input type="text" value="Choose an item"/> Select an item <input type="button" value="Get Bill"/>	Quantity : <input type="text" value="15"/> Operation : <input type="text" value="Eraser"/> RM0.30 <input type="button" value="Get Bill"/> Product : Eraser Price : RM0.30 Bill : RM4.50
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Question 3

This program will show the total bill automatically when the user chooses the food and drinks. You may set any price for the food and drinks.


Food : <input type="text" value="Noodles"/> 0.00 Drinks : <input type="text" value="Iced Coffee"/> 0.00 0.00	Food : <input type="text" value="Nasi Lemak"/> RM 1.80 Drinks : <input type="text" value="Lemon Tea"/> RM 1.20 RM 3.00
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- In function *menu()*:
 - Get the data from the form.
 - Use a switch case statement to identify the food price. You may set your own price for the food.
 - Use another switch case statement to identify the drink price. You may set your own price for the drinks.
 - Display the prices at the allocated spaces.
 - Calculate the bill and display at the specific location.

Question 4

This JavaScript program will convert Ringgit Malaysia value to American Dollar, Australian Dollar and Singapore Dollar as the user drags the slider to the left or right.

- In function *convert()*:
 - Get the ringgit value from the range input.
 - Write the formulas to convert Ringgit Malaysia to other currencies.
 - Display the converted value at the specific locations.
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- Currency value:
 - 1 USD = RM3.90
 - 1 AUD = RM 2.90
 - 1 SGD = RM 2.60

Malaysian Ringgit (RM) : 

Malaysian Ringgit : RM 287.00

American Dollar : \$ 82.00

Australian Dollar : \$ 98.97

Singapore Dollar : \$ 110.38

Question 5

This program will take in student's details and display them on the browser. The program will display error messages if the data entry is wrong.

- Once the button is clicked, it will call function *validate()*.
- In function *validate()*:
 - Get values of student id, cgpa and programme.
 - Students id must not be null and it must have 10 digits.
 - Student cgpa must not be null and must be digits.
 - The user must choose a programme.
 - If everything is correctly filled in, function *display()* will be called. Otherwise an alert "The form has errors" will be displayed with all other error messages.

Students ID : Key in the correct Student ID

CGPA : Key in the correct Student CGPA

Programme : ☐ Information Technology ☐ Accounting ☐ Engineering Choose a Programme

This page says:

The form has errors

Students ID : Key in the correct Student ID

CGPA :

Programme : ☐ Information Technology ☐ Accounting ☐ Engineering Choose a Programme

- In function *display(...)*:
 - Display all details on the screen.

Student ID : 1991138456
Student CGPA : 3.45
Student Programme : Diploma in Accounting