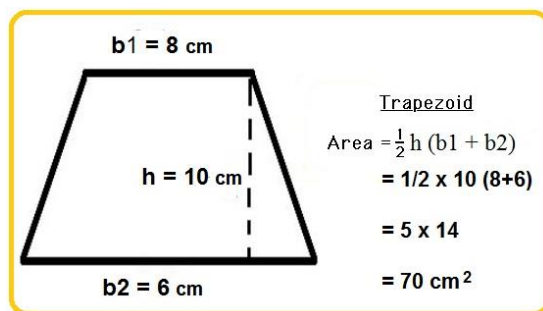# LAB 7 – JavaScript

At the end of this lab, students should be able to:
- Insert JavaScript codes into a HTML document.
- Use alert(), prompt() and confirm() boxes to capture user input and show messages to the user.
- Use if..else and switch case statements in the codes.
- Use looping statements in the codes.

Question 1

a. Write the JavaScript codes to calculate the area of a Trapezoid based on the following formula. Use prompt boxes to take in the user input. Display the result on the browser as shown below.

b1 = 8 cm

Trapezoid

Area = $\frac{1}{2}$ h (b1 + b2)

h = 10 cm

= 1/2 x 10 (8+6)

= 5 x 14

b2 = 6 cm

= 70 cm^2

This page says:

Please enter the value of base 1 :

16

OK   Cancel

This page says:

Please enter the value of base 2 :

10

OK   Cancel

This page says:

Please enter the value of height :

8

OK   Cancel

The area of the trapezoid is 104.00 cm^2.

b. Now, modify the question in (a) but this time repeat the process until the user decides to quit. When the user quits the program, display the total trapezoid areas on the browser. Use the `confirm()` pop up box and `do while` loop for this question.

The following output was for 3 repetitions. After the third data entry, the user decided to quit. The values entered were:

Base 1	Base 2	Height
8	6	10
16	10	8
24	17	20

The output on the browser:

The area of the trapezoid 1 is 70.00 cm^2
The area of the trapezoid 2 is 104.00 cm^2
The area of the trapezoid 3 is 410.00 cm^2

The total area for 3 trapezoids is 584.00cm^2

Question 2

Write the JavaScript codes to calculate the bill for the purchase of food in a café.

- Ask the user to enter their choice using a `prompt()` box.
- There are only 3 choices given. If the user chooses an invalid choice, display an *alert()* stating "*Invalid Choice. Program will terminate.*" and stop the program. Use `if..else` statement here.
- If the choice is valid, use a `switch case` statement to identify the next step based on the following table.

Choice	Next step	Price per item
1	Ask the user how many cans.	RM 2.30
2	Ask the user how many pieces.	RM 7.90
3	Ask the user how many cups.	RM 1.85

- Calculate the bill and display the bill to the customer on the browser.

Sample output if choice is invalid.

This page says: ✕

Please enter your choice
1. Nescafe
2. Pizza
3. Yogurt

12

[OK]   [Cancel]

This page says: ✕

Invalid Choice. Program will terminate.

[OK]

Sample output if choice is valid.

This page says: ✕

Please enter your choice
1. Nescafe
2. Pizza
3. Yogurt

2

[OK]   [Cancel]

This page says: ✕

Please enter the quantity of pizza :
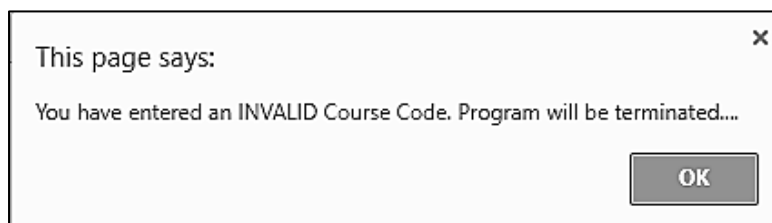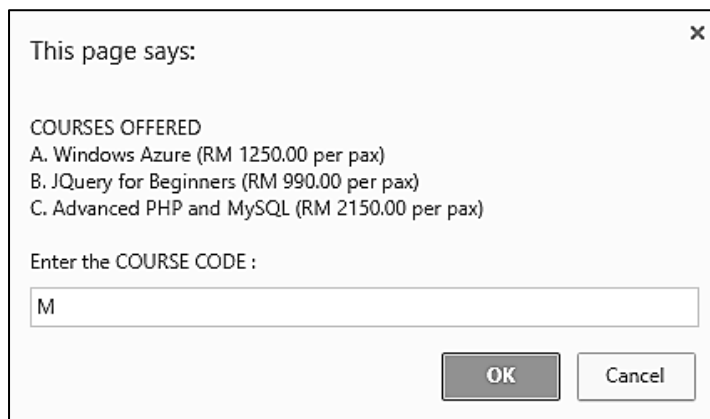
3

[OK]   [Cancel]

Bill = RM23.70

Question 3

Write a JavaScript program that will calculate the payment and identify the free gifts for attending a preferred course.

- Declare all necessary variables.
- Ask the user to enter the course code and the number of participants.
- Using **switch case** statements, identify the course name and cost.
- Using **if else** statements, identify the discount given and the free gift.

Number of Participants	Discount	Free Gift
10 or less	0%	None
11 to 20	10%	Coffee Mug
More than 20	15%	Kingston 16GB Thumbdrive

- Calculate the necessary items and display as shown in the sample output.
- If the user chooses a course code which is not valid, display an alert() "*You have entered an INVALID Course Code. Program will be terminated....*" and terminate the program.

Sample output if the Course Code is invalid.

Sample output if the Course Code is valid.

This page says: ×

COURSES OFFERED
A. Windows Azure (RM 1250.00 per pax)
B. JQuery for Beginners (RM 990.00 per pax)
C. Advanced PHP and MySQL (RM 2150.00 per pax)

Enter the COURSE CODE :

C

          OK   Cancel

This page says: ×

Enter number of participants :

15

          OK   Cancel

Course name : Advanced PHP and MySQL
Course price : RM 2150.00
Participants : 15
Discount : RM 215.00 (10.00%)
Gift : Coffee Mug
Total payment : RM 29025.00

Question 4

Write a JavaScript program for a recycling centre.

- Use a `while` loop to ask confirmation from the user to continue the program.
- If continue:
    - Ask the user to enter the weight of the recycling material.
    - Use `if..else` statement to identify the rate per kg based on the weight of the material.
        -

Weight	Rate Per Kg
Less than 10kg	RM0.15
10 to less than 20kg	RM0.20
20 to less than 30kg	RM0.25
30kg or more	RM0.30

    - Calculate and display the information on the browser as shown below.
- When the user decides to stop:
    - Display an overall summary on the browser as shown below.

Customer : 1
Weight : 12kg
Rate : RM0.20
Payout : RM 2.40

Customer : 2
Weight : 5kg
Rate : RM0.15
Payout : RM 0.75

Customer : 3
Weight : 35kg
Rate : RM0.30
Payout : RM 10.50

Total Customer : 3
Overall Payout : RM 13.65