NOTE:

- Create a folder on Desktop to save your works.

- Use comment // to write your name, ID, Group and Lab Question in each program.

- Save your file as .c

REMINDER!
Save your program as C language, not C++ (cpp).

LAB OBJECTIVES

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

- Use if else and switch case statements to aid decision making in a C program.
- Apply arithmetic, relational and logical operators in C programs.
- Use ***strcpy()*** built-in function to copy strings.

QUESTION 1

Write a C program to do the required task based on the choice made by the user.

- Ask the user to enter their choice.
- Based on their choice, identify the task to be done. Use the table below as your reference.

Choice	Task
1	To calculate speed. • Ask the user to enter distance and time. • Calculate and display the speed. • *speed = distance ÷ time*
2	To calculate work. • Ask the user to enter mass and height. • Calculate and display the work done • *work = mass x gravity x height* *(Note:* Gravity is 9.8. Set it as constant using **memory constant**)
3	To convert radian to degree. • Ask the user to enter value in radian. • Calculate and display he degree. degree = radian x 57.2958
Other values	Display "You have entered an invalid code. Program will terminate."

- Display the information as shown below.

SAMPLE OUTPUT 1:

```
--------------------------------
  1. Calculate Speed
  2. Calculate Work
  3. Convert radian to degree
--------------------------------
Enter your choice : 2

Enter mass (kg) : 45
Enter height (m): 19
Work is 8379.00 Joules
```

SAMPLE OUTPUT 2:

```
--------------------------------
  1. Calculate Speed
  2. Calculate Work
  3. Convert radian to degree
--------------------------------
Enter your choice : 3

Enter radian : 5
5.00 radian is equals to 286.48
degree
```

SAMPLE OUTPUT 3:

```
--------------------------------
  1. Calculate Speed
  2. Calculate Work
  3. Convert radian to degree
--------------------------------
Enter your choice : 4
You have entered an invalid code.
Program will terminate.
```

QUESTION 2

Write a C program for a laundry costing.

- Ask the user to enter the weight of the laundry.
- Then ask whether ironing is required or not.
    - Ironing will cost RM 5.00.
    - Declare this cost as a constant using ***pre-processor directive constant***.
- Identify the rate based on the table below. Use **if else** statement.

Laundry Weight	Rate per kg
Less than 5 kg	RM 1.00
5kg to less than 10 kg	RM 1.50
10kg to less than 15 kg	RM 2.00
15kg or more	RM 2.50

- Calculate the payment and display as shown in the output screen.

SAMPLE OUTPUT:

```
-----------------------------------------
         Welcome to Clean Laundry
-----------------------------------------
Laundry weight      : 20

Need ironing [Y/N]? : y

Your Bill
---------
Weight : 20.00
Rate   : 2.50
Iron   : y (RM 5.00)
Bill   : RM 55.00
```

QUESTION 3

Write a program to calculate the payment that a guest should make for their stay in a hotel.

- Declare all necessary variables (you may use declare constants for the room price).
- Ask the user to enter their name, room code and number of days that they are going to stay.
- Based on the room code, identify the room type and price using switch statements.

ROOM CODE	ROOM TYPE	ROOM PRICE
1 or D	Deluxe	RM 200.00
2 or T	Twin Sharing	RM 170.00
3 or S	Single	RM 120.00

- Calculate the payment that the guest has to pay.
- Display the information as shown below.

SAMPLE OUTPUT:

```
------------------------------------------------------------
                    WELCOME TO LEGEND HOTEL
------------------------------------------------------------
Rooms : Deluxe(1 or D)  Twin Sharing(2 or T)   Single(3 or S)

Enter your name      : Peter Parker
Enter Room code      : 2
Enter number of days : 5

------------------------------------------------
                 PAYMENT RECEIPT
------------------------------------------------
Customer Name     : Peter Parker
Room Type         : Twin Sharing
Room Price        : RM 170.00
Number of days    : 5
Bill              : RM 850.00
```

SAMPLE OUTPUT 2:

```
------------------------------------------------------------
                    WELCOME TO LEGEND HOTEL
------------------------------------------------------------
Rooms : Deluxe(1 or D)  Twin Sharing(2 or T)   Single(3 or S)

Enter your name      : Mary Jane
Enter Room code      : S
Enter number of days : 4

------------------------------------------------
                 PAYMENT RECEIPT
------------------------------------------------
Customer Name     : Mary Jane
Room Type         : Single
Room Price        : RM 120.00
Number of days    : 4
Bill              : RM 480.00
```

QUESTION 4

Create a complete C program for lecturers to keep track of students' assessment.

- Ask the user for their choice, either **Q** for Quiz or **A** for Assignment.
- Then, use a switch case statement to identify the actions to be executed based on the user's input.
    - If their choice is Quiz:
        - Ask the user to enter quiz 1 and quiz 2 marks.
        - Sum up the marks.
        - Display the assessment type and the total.
    - If their choice is Assignment:
        - Ask the user to enter the assignment marks.
        - Use **if else** statement to identify the status of the assignment based on the table below.

Assignment marks	Assignment status
0 to less than 50	Re-do Assignment
50 to less than 70	Good
70 to 100	Excellent
Other values	Not available

    - Display the assessment type and the assignment status.

    - If the user entered other values, display "Invalid assessment code entered"
- Display the results as shown below.

SAMPLE OUTPUT:

```
Enter type of assessment  : Q
Enter Quiz 1 and Quiz 2 marks : 7.5 10

Assessment Type : Quiz
Quiz total : 17.50
```

```
Enter type of assessment  : A
Enter assignment marks : 67

Assessment Type : Assignments
Status : Good
```