الجامعة الإسلامية العالمية ماليزيا INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA Garden of Knowledge and Virtue	**COURSE:** Introduction to Programming		**MARKS**: 32
	TOPIC: 1-5	**CODE:** ICT 0525	
	ASSESSMENT: HOT	**NO:** 2	**DURATION:** 2 hours

HANDS-ON TEST #1

WEIGHT : 10%
DATE : 25 February 2022
TIME : 8.00 p.m – 10.00 p.m (2 hours)
VENUE :

GENERAL INSTRUCTION:

1. Please save your program in **your own storage (pen drive, online storage etc) as your backup copy** at the end of the test.

2. Name your file with your **MatricNo_HOT2_ShortName** -

   211001_HOT2_Ahmad.c

3. Write a comment in your source file with the following format

```
/*    Name        : Steven Paul Jobs
      Student ID  : 211001
      Lab Group   : 410
      Purpose     : Hands-on Test #2
*/
#include <stdio.h>
.
.
.
```

4. Submit your answer by uploading a complete **flowchart** and **source code** (C file) to iTa'leEM Official Learning Management System (LMS) Moodle. You may upload the text file (output file) created by your program as well. The submission will be closed **5 minutes afterthe exam finished**.

5. Write down you flowchart in a piece of A4 paper. Dont forget to write down your Name, Matric No and Section No on top left of your flowchart paper. Snap/scan your flowchart in softcopy and submit along with your C file in iTa'leEM.

6. Please make sure that your program is free from error even though you cannot answer all the questions.

QUESTION

Relative humidity (RH) (expressed as a percent) also measures water vapour, but *Relative* to the temperature of the air. In other words, it is a measure of the actual amount of water vapour in the air compared to the total amount of vapour that can exist in the air at its current temperature.

Warm air can possess more water vapor (**moisture**) than cold air, so with the same amount of absolute/specific **humidity**, air will have a **HIGHER** relative **humidity** if the air is cooler, **and** a **LOWER** relative **humidity** if the air is warmer.

The information about the humidity levels can be access through the link below:
https://www.centralhtg.com/blog/humidity-levels

You are assinged to create one program using functions and consider that you have an array data output as in **1.View Analysis** sample below.

- function ***main ( )*** display program menus.
- ***Selection ( )*** get option from users, from the input user, forward to respection function.
- ***DisplayData ( )*** function use to display all the ID numbers, and four (4) consecutive data per week from day 1 until day 4 (D1,D2,D3,D4). The data have been insert along with variable declaration. The data display then will show the average humidity level for the week.

No.	ID No.	D1	D2	D3	D4
1	201	51	74	99	97
2	202	63	86	27	29
3	203	40	51	38	72
4	204	27	17	21	19
5	205	47	35	44	40

- ***Search ( )*** function request for specific ID and display all the data from with the humidity level.
- ***Exit ( )*** function use to end/terminate the program.

Sample output:

```
       RH - relative humidity in : 15.0 to 100

1.View Analysis
2.Search
3.Exit Program

Select Option:- 1

No.     ID No.    Week No.      D1      D2      D3      D4      Average
1         201     Week 1        51      74      99      97        80
2         202     Week 2        63      86      27      29        51
3         203     Week 3        40      51      38      72        50
4         204     Week 4        27      17      21      19        21
5         205     Week 5        47      35      44      40        41

Select Option:- 2

Enter id No.: 203

--- Humidity Levels for Week 3 ---

Sample 1: 40   Low Humidity
Sample 2: 51   Recommended Humidity
Sample 3: 38   Low Humidity
Sample 4: 72   High Humidity

Select Option:- 3

Exit program. Thank you

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```

----------END OF QUESTION ----------