



Faculty of Engineering and Technology
Computer Science Department
COMP131

Assignment # 2

Fall 2019/2020

Due Date: 31/10/2019 at 11:45 PM

Notes:

1. Solve this assignment using Microsoft Word program.
2. Submit your assignment-solution through *Ritaj* only.
3. The assignment should be submitted on the due date, late submission will **NOT** be accepted for any reason.
4. The assignment is **individual** effort. Copying the solution from others will be treated as a cheating case, which may lead to fail the course.
5. Please write your name (in Arabic and in English), Student NO., and Lab Section NO. clearly.

Question #1

Assume you are working in teamwork for designing new buildings. The new designs must consider carefully the number of **emergency exits** (مخرج طوارئ) the building should have; depending on number of people in this building.

You as a computer programmer, write an **algorithm** to read number of persons supposed to live in this building. Then, the algorithm determines and prints out the suitable number of emergency exits according to the following table:

Number of persons	Number of emergency exits
50 or less	1 exit
51- 175	3 exits
176- 320	5 exits

If number of persons is above 320, number of emergency exits calculated as the following equation:

$$\text{Number of emergency exits} = \frac{\text{No. of persons}}{100} * 1.8$$

Question #2

Write an **algorithm** to read number of Palestinian populations in 2019. The number of populations increases by a fix rate of 2.8% per year. Write an algorithm that finds the year in which the number of Palestinian populations will exceeds the double (i.e. twice) current number.

Question #1

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Solution :

START

ask user to enter the number of people and save it in PEOPLE

IF PEOPLE is less than one THEN

set EXITS " Error, you can't enter zero or minus number"

ELSE IF PEOPLE is less than fifty one THEN

set EXITS to one

ELSE IF PEOPLE is less than one hundred seventy six THEN

set EXITS to three

ELSE IF PEOPLE is less than three hundred twenty one THEN

set EXITS to five

ELSE

multiply PEOPLE with 0.018, and save it in EXITS

multiply EXITS with one thousand and save it in EXITS

set COUNTER to zero

While COUNTER is less than three

 set R to EXITS mod 10

 subtract R from EXITS and save it in EXITS

 divide EXITS by 10 and save it in EXITS

 Increment COUNTER

add one to EXITS and save it in EXITS

END IF

print EXITS

END

Question #2

Write an **algorithm** to read number of Palestinian populations in 2019. The number of populations increases by a fix rate of 2.8% per year. Write an algorithm that finds the year in which the number of Palestinian populations will exceeds the double (i.e. twice) current number.

Solution :

START

ask user to enter number of Palestinian populations in 2019 and save it in
PAL_POP

IF PAL_POP is less than or equal zero THEN

print "Error, you can't enter zero or minus population"

ELSE

set YEAR to 2019

set X equal to PAL_POP

while X is less than or equal (2 multiply POP)

multiply X with 1.028 and save it in X

increment YEAR

END While

print "Palestine populations will exceeds the double in " YEAR

END IF

END