NAME :

STUDENT NO. :

GROUP :

QUESTION 1

(a)   Change the following `for` loop statement into `while` statement.

```
int sum=0, digit;

for (digit = 0; digit < 10; digit++)
{
     if (digit % 2 == 0)
          sum += digit;
}
cout<<sum<<endl;
```

(b)   What is the output for (a)?

QUESTION 2

Construct the following conversion table using `while` loop, where 1m = 100cm and 1 inch = 2.54 cm.

```
Meter            Inch            Centimeter(cm)
-----            ----            --------------

1                39.37           100
2                78.74           200
3                118.11          300
4                157.48          400
5                196.85          500
6                236.22          600
7                275.59          700
8                314.96          800
9                354.33          900
10               393.70          1000

Press any key to continue . . . _
```

Figure 1: Sample output

QUESTION 3

Analyze the problem statement below and write the appropriate C++ program segment.

"A loop statement will stop entering a list of scores when user said no. Validate and count number of valid scores which are between 1 to 100. Display the total of valid scores. "

QUESTION 4

The data has been collected from UiTM students as a respondent to find out their confidence level in getting high marks for any programming subject. The survey has been given to those students who are taking the subject for the current semester. The respondent will give a score from 1 to 5 only, where 1 represents the lowest confidence level of getting good mark for the subject, while score 5 represents the highest confidence level of getting good mark for the subject.

You are requested to write a C++ program to do the following:

- input all the respondent scores
- make sure the program only reads the valid score number which is 1 to 5 only, other than that number, display the error message
- the program will determine the total number of respondents for each score and overall number of respondents (with valid score) who are involved in the survey
- it also needs to calculate and display the average score result

The input will continue until user chooses to stop entering the data.

```
Number of respondents that answer 1: 2
Number of respondents that answer 2: 3
Number of respondents that answer 3: 2
Number of respondents that answer 4: 4
Number of respondents that answer 5: 2

Total respondents: 13
Average score result: 3
```
Figure 2: Sample output

QUESTION 5

Blood pressure reading is basically has two numbers, for example 125/85 mmHg. The top number (125) is called systolic while the bottom number (85) is called diastolic. Based on these readings, level of blood pressure of a person can be determined, such as low, ideal, pre-high or high blood pressure.

Write a complete program that request the readings of blood pressure for systolic and diastolic of 10 persons and do the following:

- Find the maximum readings of diastolic and minimum reading of systolic.
- Calculate average readings of diastolic and systolic.
- Count the number of person that can be categorized as low blood pressure where the reading of systolic is less than 90 and diastolic is less than 60.

- Count the number of person that can be categorized as high blood pressure where the reading of systolic is greater than 140 and diastolic is greater than 90.
- Display all the results obtained in appropriate output format.