Homework #7

(Due date: 09 November 2023)

Objective :

Learn to use **if/else** and **switch** statements to do decision making,

then combine with **for** and **while** loops to perform some operations.

7.1
Write a program to input an integer *n*, then output all possible combinations of side lengths and count the number of these combinations, suppose second longest side is *n* and all three sides are different lengths.

input:
8
Output:

```
Enter the value of n: 8
Side length of triangle:
2 8 9
3 8 9
3 8 10
4 8 9
4 8 10
4 8 11
5 8 9
5 8 10
5 8 11
5 8 12
6 8 9
6 8 10
6 8 11
6 8 12
6 8 13
7 8 9
7 8 10
7 8 11
7 8 12
7 8 13
7 8 14
Number of triangles with n as the middle side length: 21
```

7.2

Write a program to use the *rand()* function to generate two matrices of size 3*3, then output these matrices and implement addition and subtraction operations.

Hint : random between 0 ~ 100.

Output :

```
a.
[74 42 5]
[31 71 8]
[6 90 97]
b.
[77 18 47]
[64 70 26]
[77 86 29]
add.
[151 60 52]
[95 141 34]
[83 176 126]
sub.
[-3 24 -42]
[-33 1 -18]
[-71 4 68]
```

Please note:: users of visual studio add the following code to your program's beginning

```
2    #pragma warning(disable:4996)
```

繳交格式及規定 :

程式重點地方請加註解,給分也會酌量參考註解。

請繳交 .c 檔即可。

c 檔的檔名一律統一,以學號為檔名壓縮成一個以學號為名的壓縮檔

上傳,

上傳請一律繳交壓縮檔。

Example:

若學號為 B123456789, 則.c/.cpp 檔名為 B123456789.c ,

而壓縮檔名為 B123456789.rar。

繳交期限 2023.11.09 (四) 09:00 分之前,逾期一律不收,

無輸入輸出及逾期者一律以 0 分計算。

作業請上傳中山網路大學 網大上傳方式:

1. 點選要繳交的作業,選擇「進行作業」。

2. 依照流程上傳檔案。