TCSS141A – SPRING 2021 – TEST #2 – 5/17/2021 - max 30 points

IMPORTANT INFORMATION – READ CAREFULLY:

- SUBMIT YOUR WORK TO THE CANVAS BEFORE THE DUE TIME.
- THE NAME OF THE FILE: yourlastname_T2.py.
- Start your program with: # your name.

- IN THE PROGRAM YOU CAN USE ONLY METHODS AND TOOLS INTRODUCED IN THIS COURSE BEFORE THIS TEST. PROGRAMS OR PARTS OF PROGRAMS WHICH ARE NOT USING SUCH METHODS OR TOOLS WILL GET NO CREDIT FOR YOUR SCORE.

- ACADEMIC HONESTY

  - DURING THE TEST YOUR CAMERA HAS TO BE ON.

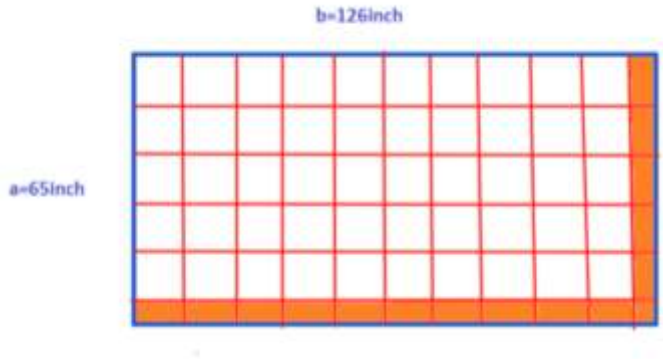
  - THE SUBMITTED PROGRAM HAS TO BE CREATED BY YOU; YOU CANNOT USE ANY ON-LINE OR OTHER PERSON HELP TO CREATE THE PROGRAM.

Problem: FLOORING SQUARES

A company is selling to customers a flooring material in a shape of squares. Each square has a size 1 sq. ft. (it means 12 x 12 inches). The company is cutting these squares from a bought supply which is delivered in a rectangle shape and for which the company pays a supply price. The supply price is reflected in a minimum "material" price of the each cut-out square.

Example:

Let suppose that the flooring material has the size 65 inch x 126 inch and its buying price was $129. See the picture.



Then the company can cut-out 5 x 10 = 50 flooring squares, and the minimum "material" price of each square will be $129 / 50 = $2.58.

Some material is potentially not used, it is colored in orange.

Assignment: Write a program using two void functions as described:

STEP 1:

Write following two void functions:

I. A void function `info` which displays a basic information about the production and the program.

II. A void function `floor_squares` with two parameters representing the size of the supplied material, and the price of the supplied material. The size of the supplied material must be provided in the form `lengthxwidth (example: 65x126)`, where the length and the width are integers.

The price of the material must be entered as a positive integer.

The function `floor_squares` displays following values:

- The length and width of the supplied material;
- The number of squares which can be cut-out from the supplied material;
- The minimum (material) price of each cut-out square;
- The percentage of the supplied material which is not used.

If the size or the price of the supplied material is not entered in the valid form, the function displays: "The size or the price information is not valid".

STEP 2:

Use the functions `info` and `floor_squares` to create a program which displays information and values described in the functions created in the STEP 1. The functions are appropriately called in the `main` function for multiple suppliers. The user enters the size and the price as two inputs.

If the user enters 0 for the size of the supplied material, the program terminates.

For more details see a possible output of the program.

Example of a possible output:

```
This program displays info about a production of flooring squares.
The material for flooring squares is received from multiple suppliers.
The valid material size is in the form:lengthxwith.
The valid material price is entered as a positive integer.
The program ends by entering 0 for the size of material.

Enter the size of the material to use: 65x126
Enter the price of the material: $129
The supplied material: LENGTH: 65 inch, WIDTH: 126 inch.
From the material can be made  50 floor squares.
The minimum price of each square is $ 2.58
Not used material:  12.09 %.

Enter the next size of the material to use: 105 x 228
Enter the price of the material: $109
The size or the price information is not valid.

Enter the next size of the material to use: 105x228
Enter the price of the material: $110.25
The size or the price information is not valid.

Enter the next size of the material to use: 456x248
Enter the price of the material: $1100
The supplied material: LENGTH: 456 inch, WIDTH: 248 inch.
From the material can be made  760 floor squares.
The minimum price of each square is $ 1.45
Not used material:  3.23 %.

Enter the next size of the material to use: 120x72
Enter the price of the material: $155
The supplied material: LENGTH: 120 inch, WIDTH: 72 inch.
From the material can be made  60 floor squares.
The minimum price of each square is $ 2.58
Not used material:  0.00 %.

Enter the next size of the material to use: 0

Thank you for using my program!
```