PROJECT #1 (Due to: 25.10.2016, 18:00)

Demo Dates: 26-27.10.2016

MULTIPLICATION WITH DECIMAL NUMBERS

This project is a programming assignment in C which aims to build an algorithm that will multiply **2 arbitrary-length decimal numbers** and returns the output in **decimal number** format.

Some examples for decimal multiplications are as follows:

Example -1:

```
  10
  x6
 60
```

Example -2:

```
   13
  x14
   52
 +13
  182
```

Example -3:

```
   125
  x141
   125
   500
 +125
  17625
```

Example -3 with Linked Lists:

```
   125   →LL1        LL3:empty
  x141   →LL2
   125    1     →    LL3: 125
  500     2     →    LL3: 5125
+125      3     →    LL3: 17625
 17625
```

A Standard Scenario of a Test Case:

After the program starts to run; it needs to ask the user to enter two input numbers as follows;

Please enter the first number: 125

After the user enters the first number, the program needs to ask for the second number:

Please enter the second number:141

Please do not forget to check if the numbers are decimal or not.

After that the system needs to multiply the numbers and returns the result in decimal.

Results is: 17625

Important Notes:

Remember:

The program will let the user to enter any **arbitrary-length decimal numbers**.

Please consider 'carry'.

You can ignore any details related to signed/unsigned numbers.

You can ignore any details related to decimal points and fraction parts.

In your demo, we will run your program by **entering arbitrary-length decimal numbers.** We want to see if they are **working correctly or not**, **and your demo grade will be calculated based on number of your test cases which are working correctly.**

Of course, other questions based on your implementation and coding structure will be asked you during your demo. These questions will be those kinds of questions which could be answered by only the students who really implement his/her project.

The main goal of this project is to be familiar with linked-list. So, if you use arrays instead of linked-lists then you will get zero, unfortunately.

In this project you are expected to develop an algorithm that is capable of finding a solution to the above problem and ***implement this algorithm in ANSI C that runs under either UNIX or Windows***.

You are responsible for demonstrating your program to your TA Berna Altinel on the scheduled day that will be announced later.

CODE SUBMISSION:

Name your main program as follows:

Name_surname.c

You should use the following email address in order to submit your code:
datastr.mufe at gmail dot com

Your any submission after the project submission due date, will not taken into consideration.

You are required to exhibit an ***individual effort*** on this project. Any potential violation of this rule will lead everyone involved to **failing from the course** and necessary disciplinary actions will be taken.
Good luck!!!