# Exercises about variables

* Solve them in Visual Studio or use <https://dotnetfiddle.net/>.

## Exercise 02.01

* There is a fixed percentage of reduction given to clients of 7%.
* There is also a fixed percentage of 21% taxes.
* Ask thru the console a name.
  + E.g., Vincent
* Ask thru the console an amount (no decimals).
  + E.g., 1000
* First, subtract the discount of it (7%) (decimals possible).
* Then, add the taxes to it (21%) (decimals possible).
* Show this message on the console.
  + Hello Vincent, your amount was 1000.
* On the next line.
  + You need to pay xxx. (The result of your calculation)
* Show the result (no formatting at all).
* After you have a good result.
  + Show the result rounded to 2 decimals.

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|  | Tip 1:  YourVariable.ToString(“F2”)  F2 means floating with 2 decimals.  Tip 2:  “You need to pay {0:F2}”, yourResultOfTheCalculation  F2 means floating with 2 decimals. |
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## Exercise 02.02

* Ask thru the console a number(no decimals).
  + That number must be between 0 and 21 (borders not included).
  + E.g., 11.
* As long as the number is not correct, ask it again.
  + When the number is lower than 1.
  + When the number is higher than 20.
  + When the number is not a number. E.g. “abc”.
* Then you loop from 0 till the given number (A counter in a loop).
  + Show on the console this:
    - A “\*” – A number of spaces – A “\*”.
    - The number of spaces is the value of the counter in the loop.
* At the end, when another key is entered on the keyboard, the application stops.

### An example

#### Given number

* 10 🡪 Loop from 0 till 10.

#### Result

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\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

## Exercise 02.03

* The same exercise as 02.02.
* You also ask for 2 characters:
  + First character to start and stop with.
  + Second character to put in between.
* The first character cannot be a space.
  + If it is, it must be re-asked after showing a nice error message.
* The second character cannot be a space.
  + If it is, it must be re-asked after showing a nice error message.
* The second character must be different than the first character.
  + If it is the same, it must be re-asked after showing a nice error message.

#### Given number

* 10 🡪 Loop from 0 till 10.

#### Given first character

* +

#### Given second character

* O

#### Result

++

+O+

+OO+

+OOO+

+OOOO+

+OOOOO+

+OOOOOO+

+OOOOOOO+

+OOOOOOOO+

+OOOOOOOOO+

+OOOOOOOOOO+

## Exercise 02.04

* Ask thru the console a number (no decimals).
  + That number can be very big.
* As long as the number is not correct, ask it again.
  + When the number is not a number.
  + Show a nice error message.
* We show numbers on the console (Fibonacci Sequence).
  + We start with 0.
  + We continue with 1.
  + All the next numbers are the sum of the last 2 put on the screen.
    - 1 🡪 2 🡪 3 🡪 5 🡪 8 🡪 13 🡪 … 🡪 196418 🡪 …
* You stop the loop, when the last shown number in the Fibonacci Sequence is larger than the asked number.

#### Given number

* 250.

#### Result

0

1

1

2

3

5

8

13

21

34

55

89

144

233

377