Exercises about variables

- Solve them in Visual Studio or use https://dotnetfiddle.net/.
- Use one solution, with multiple projects in it.

Exercise 01.01: Take a byte

- Define a variable with a good name of type “byte”.
- Initialise this variable with a number.
- Show the value of the variable in the console.

Exercise 01.02: Add a bit

- Build on the result of 01.01 or restart.
- Add now 17 to the variable (value becomes + 17).
- Show the current value of the variable in the console.

Exercise 01.03: Add a bit to itself

- Build on the result of 01.02 or restart.
- Add to the variable the value of itself.
- Show the current value of the variable in the console.

Exercise 01.04: Change a bit

- Build on the result of 01.03 or restart.
- Suppose you had given the variable the number 200 as initial value.
- What would be the result of exercise 01.04?

Notes

Exercise 01.05: Working with text

- Build on the result of 01.03 or restart.
- Define a new variable with another good name of type “string”.
- Give the variable a certain text value.
- Show the value of the variable in the console.

Exercise 01.06: Add a byte to a string

- Build on the result of 01.05 or restart.
- You have a variable of the type string.
- You have a variable of the type byte.
- Try to add them and show the result on the console.
- What happens?

Exercise 01.07: Is it the thruth or is it a lie?

- Start a new project.
- Define two variables of the type “bool”.
- Give them a good name.
- One variable gets the value “True”.
- The other variable gets the value “False”.
- Show both values in the same line to the console in this format:
  - First: True – Second: False
- If you change the values of the boolean, the console text shown must be correct.
  - An example
    - First: False – Second: False

Notes

Exercise 01.08: Côte d'or

- Build on the result of 01.07 or restart.
- You have 2 boolean variables with its values.
- Show the value of the 2 boolean used with operator "Or".

Exercise 01.09: Mister Anderson

- Build on the result of 01.08 or restart.
- You have 2 boolean variables with its values.
- Show the value of the 2 boolean used with operator "And".

Exercise 01.10: True becomes False and vice versa

- Build on the result of 01.08 or restart.
- You have 2 boolean variables with its values.
- Show the value of the negation of your first boolean.

Exercise 01.11: Basic calculations

- Start a new project.
- Define two variables of the type "double".
- Assign a decimal value to both.
- Add them together and show result.
- Subtract one from another and show result.
- Multiply them together and show result.
- Divide them and show result.

Notes

Exercise 01.12: Not so basic calculations

- Same exercise of above, but you give them both the value 0.
- What happens?

Exercise 01.13: Numbers are floating

- Start a new project.
- Define two variables of the type “float”.
- Assign a decimal value to both.
- Add them together and show result.
- Subtract one from another and show result.
- Multiply them together and show result.
- Divide them and show result.

Exercise 01.14: Working with whole numbers

- Start a new project.
- Define two variables of the type “int”.
- Assign a value to both.
- Add them together and show result.
- Subtract one from another and show result.
- Multiply them together and show result.
- Divide them and show result.
    - Do you see the correct result?
    - Also when you divide 1 by 2?

Exercise 01.15: Working with decimals

- Start a new project.
- Define a variable of the type “decimal”.

Notes

- Give the variable a value with a lot of decimals.
- Show this to the console.
- Do you see the correct value?

Exercise 01.16: Working with doubles

- Start a new project.
- Define a variable of the type “double”.
- Give the variable a value with a lot of decimals.
- Show this to the console.
- Do you see the correct value?

Exercise 01.17: This will always be wrong

- Start a new project.
- Try to define 2 variables with the same name.
- What happens?

Exercise 01.18: Making a decision

- Start a new project.
- Define 3 variables with a good name of the type “int”.
- Ask on the screen to fill in those 3 numbers (e.g., 10 – 20 – 30).
- Show the biggest number to the console.
- Show the smallest number to the console.
- Show text “there are equals” if 2 or 3 numbers do have the same value.
- When not, show the text “They are all different”.

Notes