



## TP0 : First steps in C programming

The aim of this tutorial is to familiarise you with the **Code::Blocks** programming environment.

- To launch **Code::Blocks**, click on the shortcut available on the desktop or in the **Start/Code::Blocks** menu (otherwise it will be indicated by your assistant).
- Once you have started the **Code::Blocks** IDE «integrated development environment », choose "**Create a new project**" or go to **File/New/Project**.
- Then select the "**Console application**" project from the list and click "**Go**" to confirm.
- Give your project a name and choose the directory where it should be saved. Validate with "**next**".
- In the compiler selection window, keep the default settings and press "**next**".
- Select the C language and validate by pressing "**Finish**".
- In the left-hand frame "**Projects**", expand the tree view by clicking the small "+" to display the list of project files. You should have at least one **main.c** with already a little source code in it. You can open the main.c file by double-clicking on it.
- To save a file, go to the **File/Save** menu or type the key combination `Ctrl+S`
- To open a file (or project), go to the **File/Open** menu...or type the key combination `Ctrl+O`
- To compile a C program (i.e. build the executable program), go to the **Build/Build** menu or press `Ctrl+F9`.
- To run a program, go to the **Build/Run** menu or type the key combination `Ctrl+F10`.
- For help, go to the **Help/CodeBlocks** menu. To get help on an instruction that appears in a script, place the mouse cursor over it and go to the **Help/CodeBlocks** menu.
- To exit **Code::Blocks**, go to the **File/Quit** menu or type the key combination `Ctrl+Q`.

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## Tasks

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### Program "Hello"

Let's start with a classic. First of all, we propose to compile and run a small C program which is automatically generated by **Code::Blocks** when a new project is created. The listing below shows the contents of your project's main.c file.

```
#include <stdio.h>
#include <stdlib.h>

int main ( )
{
    printf ( "Hello world !\n" );
    return 0 ;
}
```

1. Compile and run your project.
2. Modify the program so that it displays the following sentence "good morning" instead of "Hello World !".
3. What do you notice?
4. Add another instruction to display " how are you?"
5. Run the program again. What do you notice?
6. Separate the two sentences with \t and then with \n.
7. What do you deduce from this?
8. Modify the program so that it draw :
  - a) a square full of stars (Figure A).
  - b) a right-angled triangle of stars (Figure B).
  - c) an isosceles triangle of stars (Figure C).

(A)

```
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* * * * *
* * * * *
```

(B)

```
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* * * *
* * * * *
```

(C)

```
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* * * * * * * * *
```