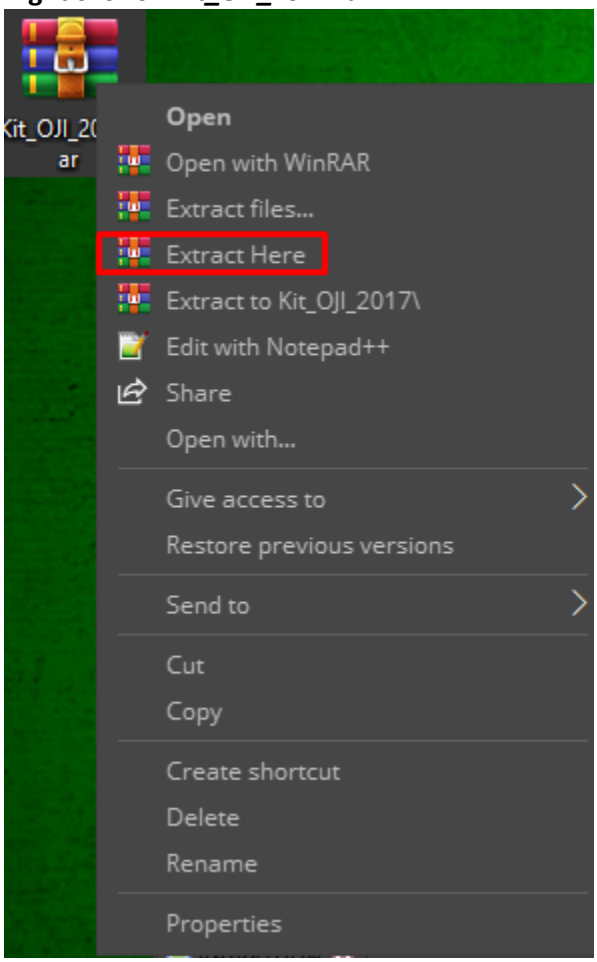
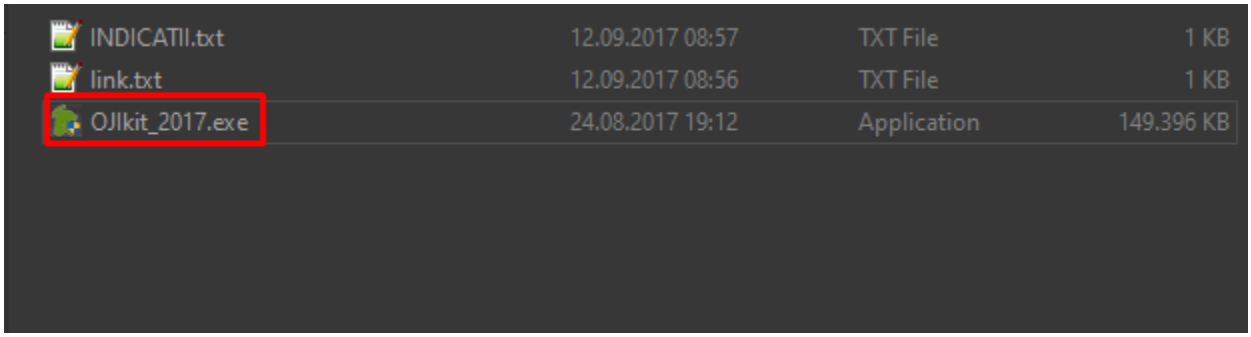
Create your own fractal

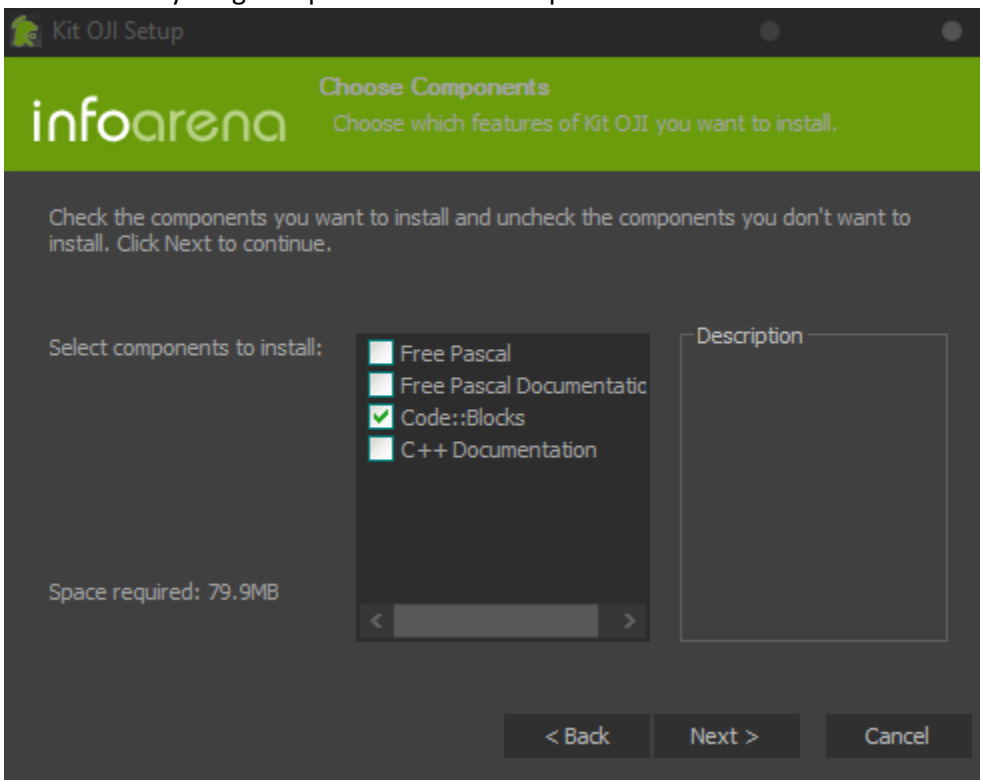
1. Install Winrar
2. Installing ***Code::Blocks***
   - Download this
   - **Right click** on ***Kit_OJI_2017.rar***



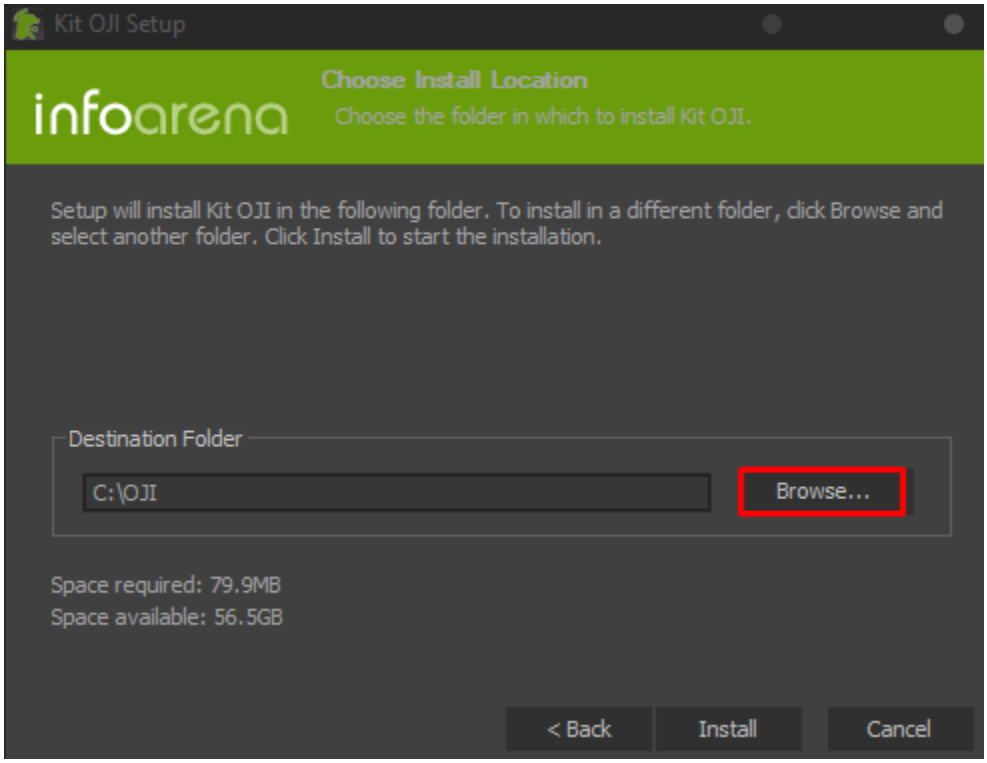
   - Open the folder created
   - Run **OJIKIT_2017.exe**



- Uncheck everything except **Code::Blocks** and press **Next**

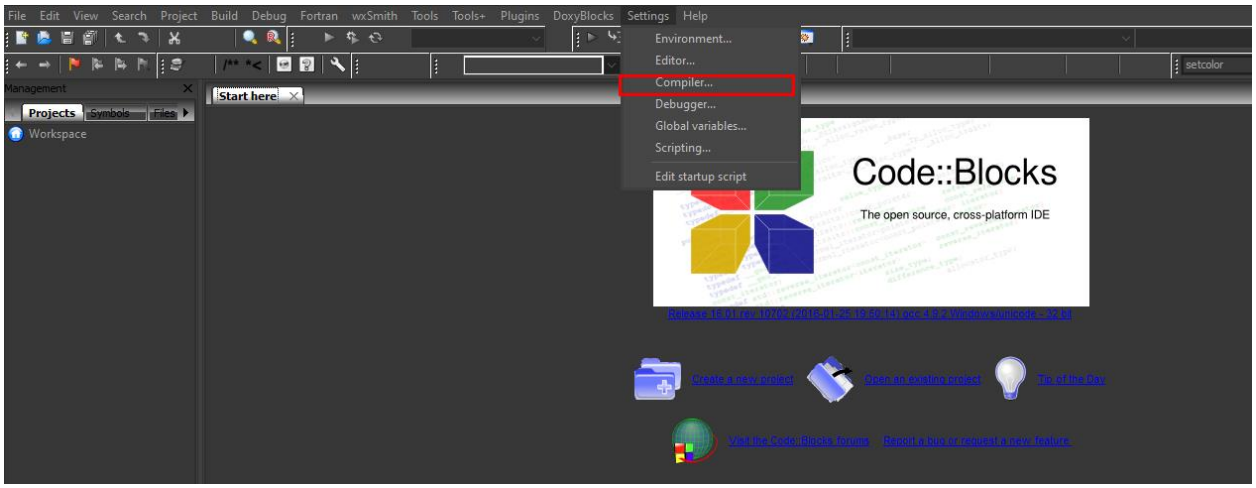


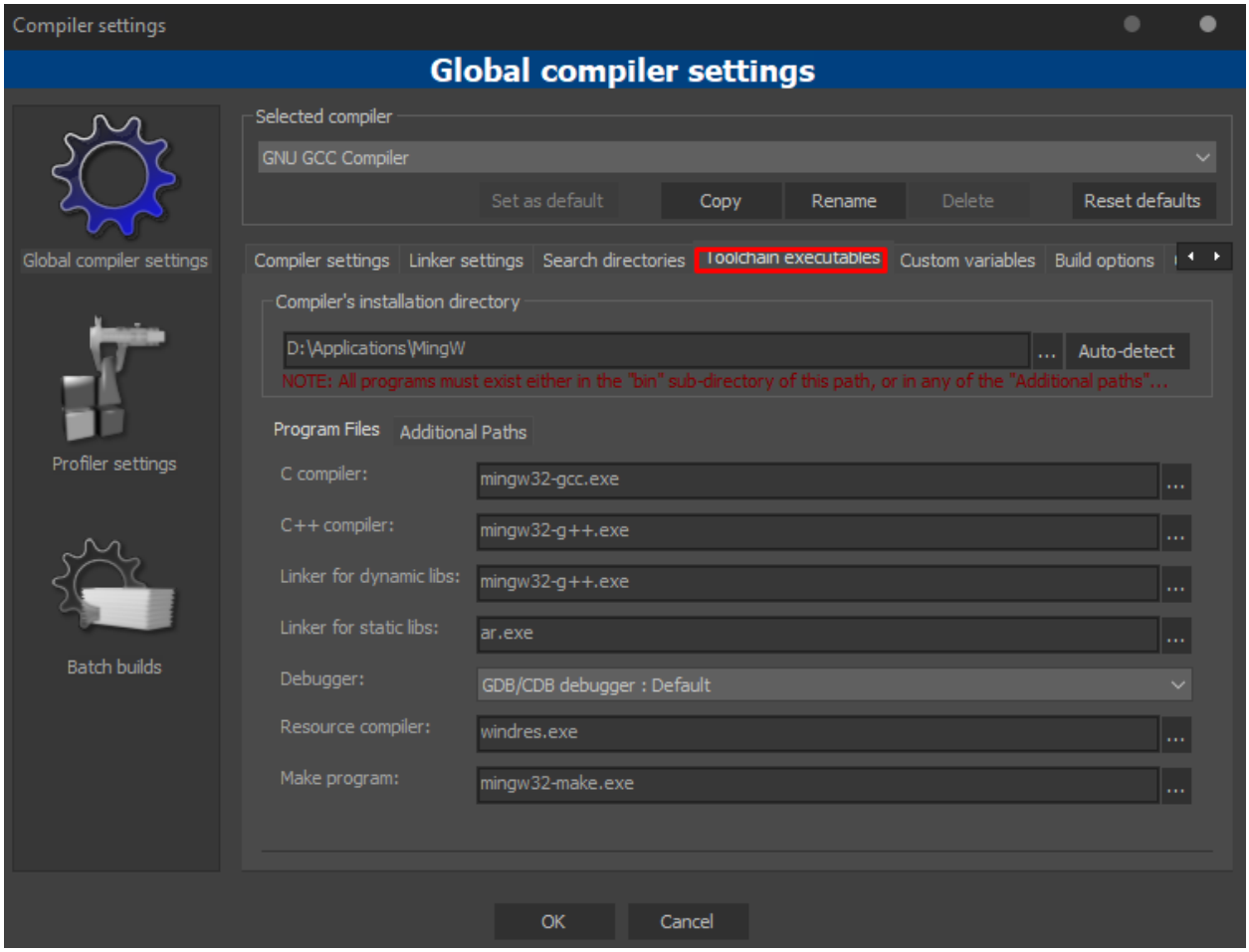
- Choose the location by clicking **Browse...** and then **Install**

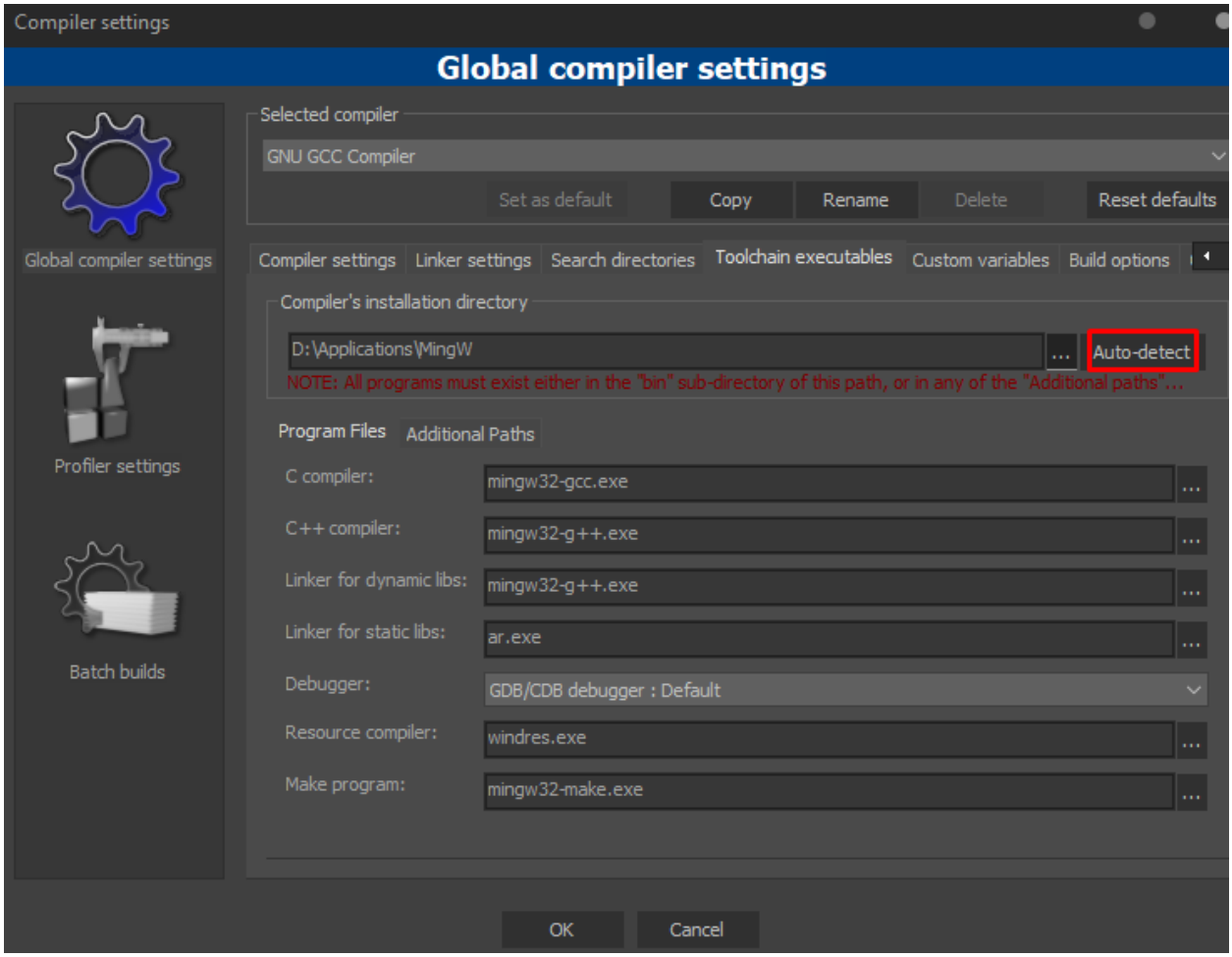


3. Open ***Code::Blocks***

4. Setting up the compiler

- 


Compiler settings
Global compiler settings
Global compiler settings
Profiler settings
Batch builds
Selected compiler
GNU GCC Compiler
Set as default
Copy
Rename
Delete
Reset defaults
Compiler settings
Linker settings
Search directories
Toolchain executables
Custom variables
Build options
Compiler's installation directory
D:\Applications\MingW
Auto-detect
NOTE: All programs must exist either in the "bin" sub-directory of this path, or in any of the "Additional paths"...
Program Files
Additional Paths
C compiler:
mingw32-gcc.exe
C++ compiler:
mingw32-g++.exe
Linker for dynamic libs:
mingw32-g++.exe
Linker for static libs:
ar.exe
Debugger:
GDB/CDB debugger : Default
Resource compiler:
windres.exe
Make program:
mingw32-make.exe
OK
Cancel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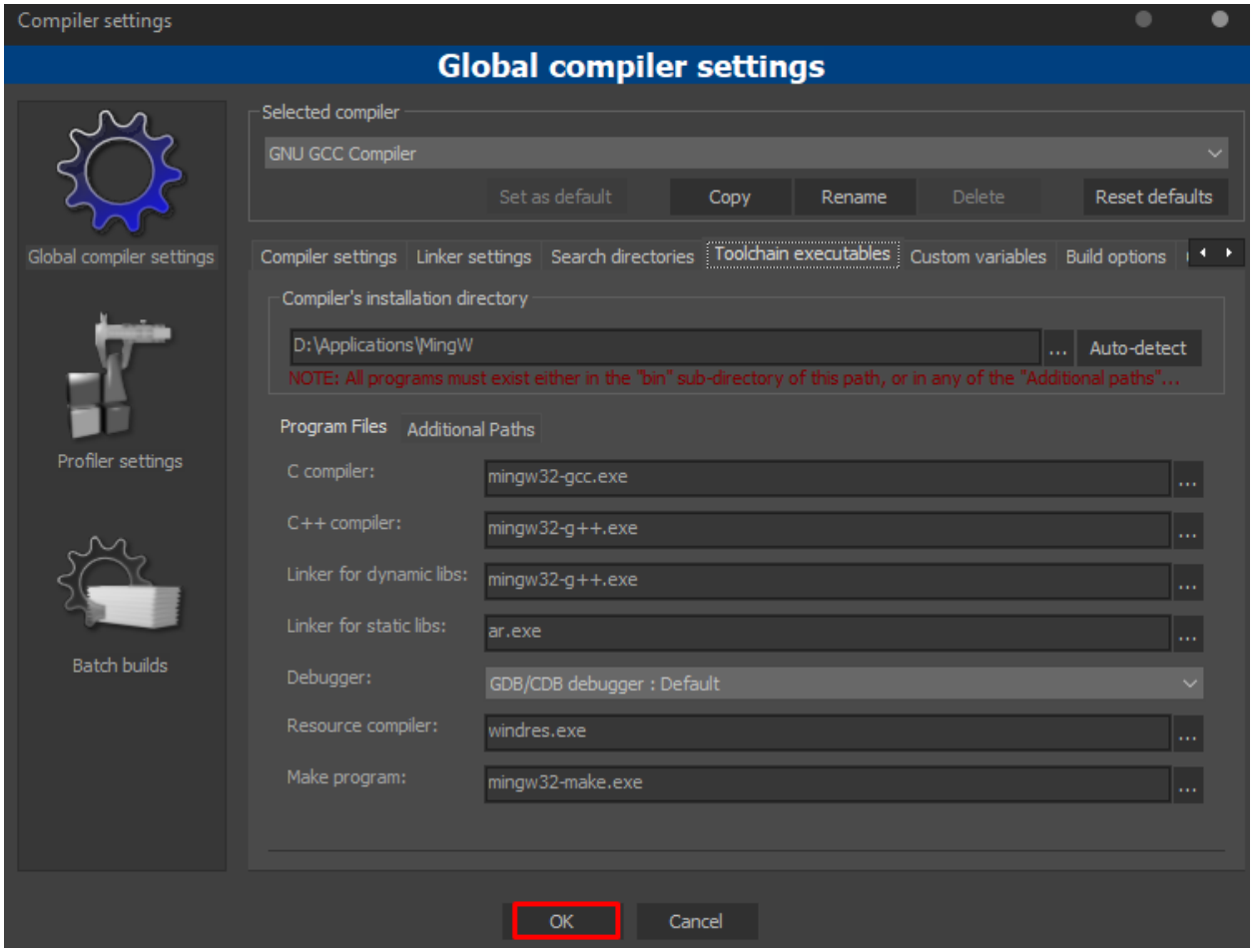
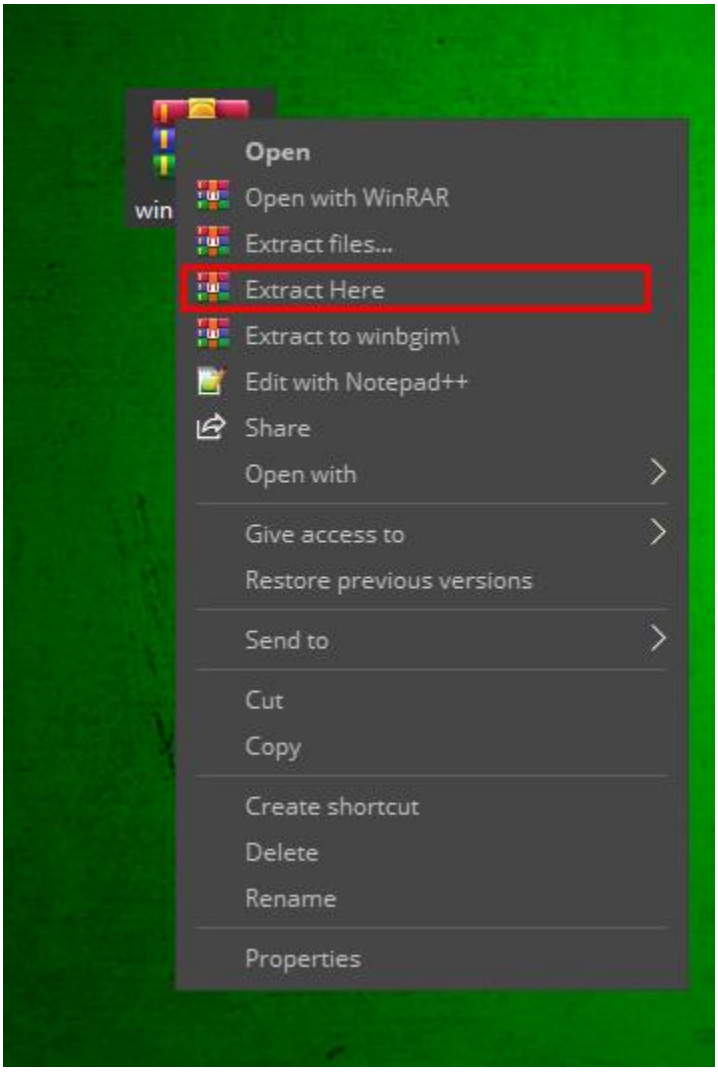
Batch builds
Debugger:
GDB/CDB debugger : Default
Resource compiler:
windres.exe
Make program:
mingw32-make.exe
OK
Cancel



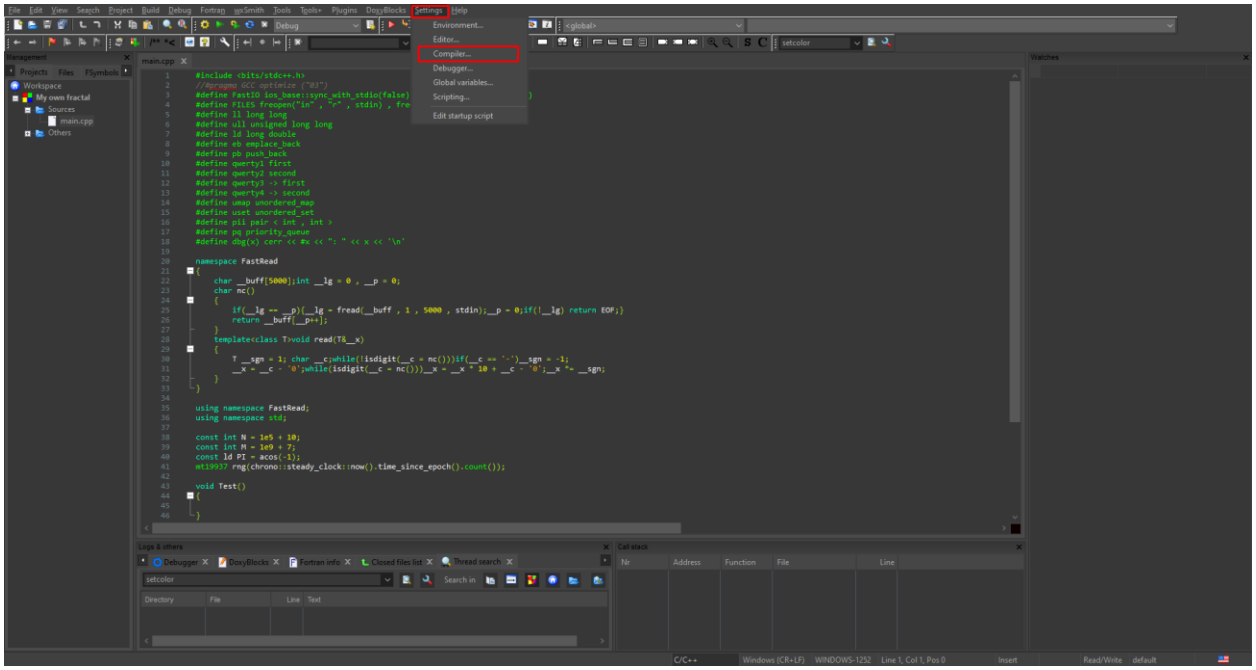
5. Settting up the graphics

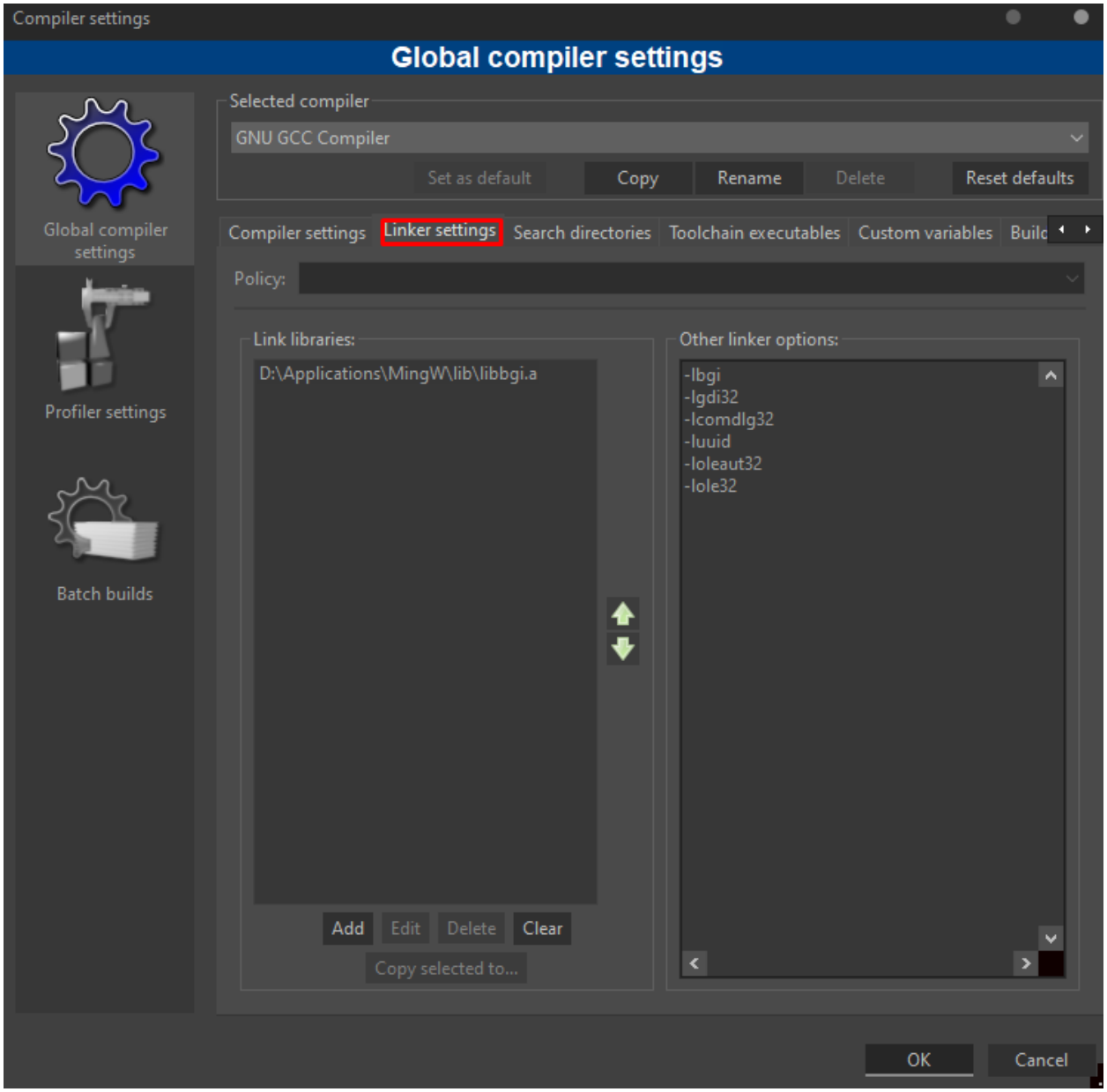
   - Download the archive by clicking here and extract: ***right click*** and choose ***Extract here***



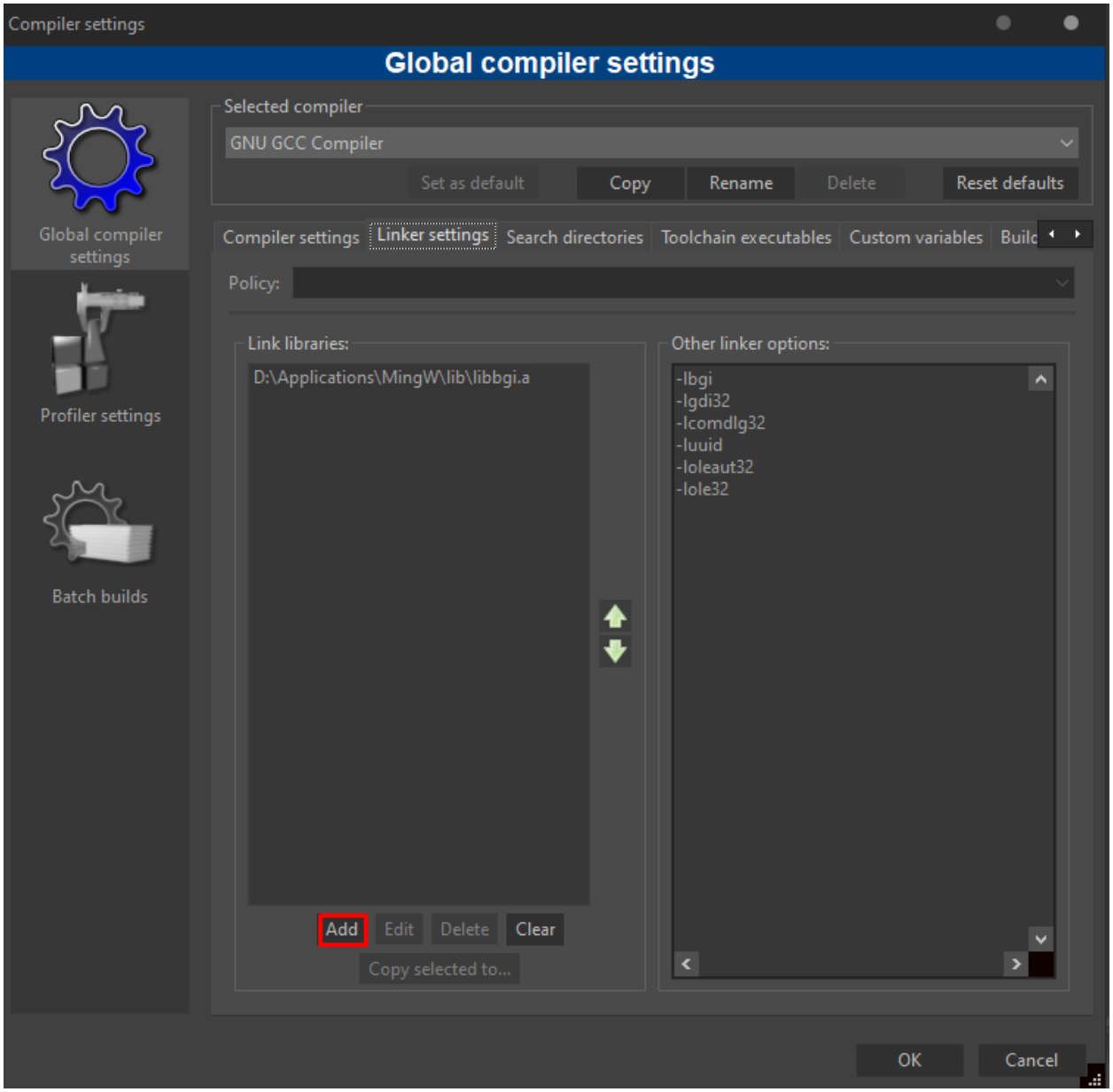
- There should be these files:

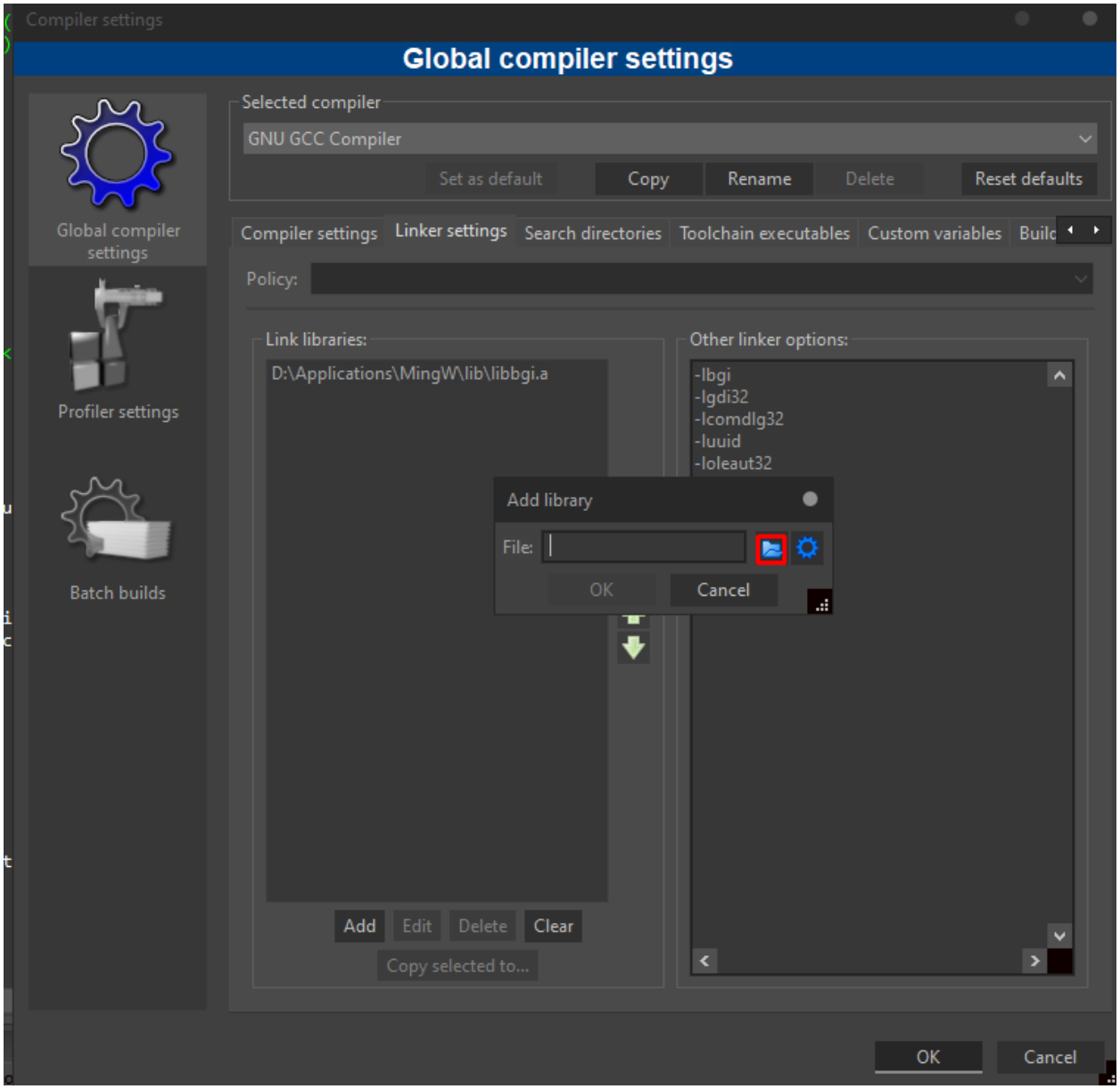
- Copy ***graphics.h*** and ***winbgim.h*** in the folder ***include*** that is found where Code::Blocks is installed in the subfolder ***MinGW*** (the default location is: ***C:\Program Files\CodeBlocks\MinGW\include\)***
- Copy ***libbgi.a*** in the subfolder named ***lib*** of *MinGW* (the default location is ***C:\Program Files\CodeBlocks\MinGW\lib\)***
- In Code::Blocks go to **Settings >> Compiler… >> linker settings**





- Click **Add** in the ***Link libraries*** and search for **libbgi.a**


Compiler settings
Global compiler settings
Selected compiler
GNU GCC Compiler
Set as default
Copy
Rename
Delete
Reset defaults
Global compiler settings
Compiler settings
Linker settings
Search directories
Toolchain executables
Custom variables
Profiler settings
Policy:
Link libraries:
D:\Applications\MingW\lib\libbgi.a
Other linker options:
-lbgi
-lgdi32
-lcomdlg32
-luuid
-loleaut32
-lole32
Batch builds
Add
Edit
Delete
Clear
Copy selected to...
OK
Cancel


Compiler settings
Global compiler settings
Selected compiler
GNU GCC Compiler
Set as default
Copy
Rename
Delete
Reset defaults
Global compiler settings
Profiler settings
Batch builds
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Linker settings
Search directories
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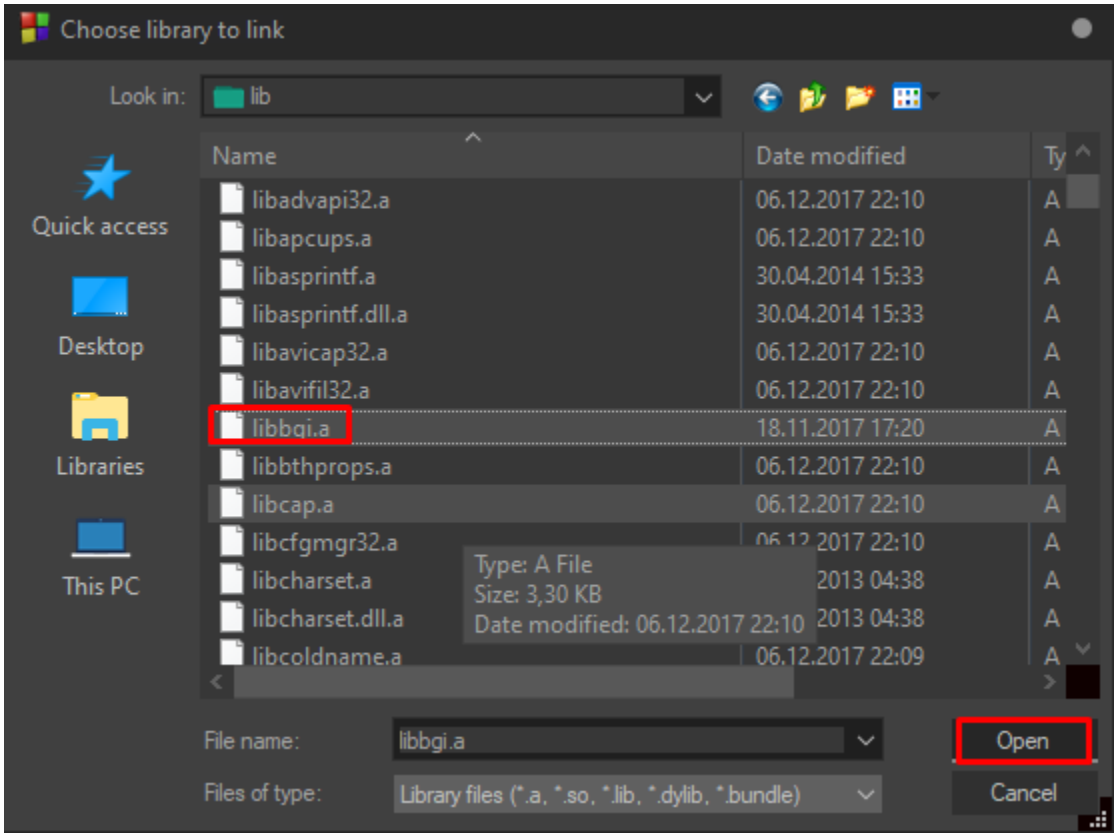
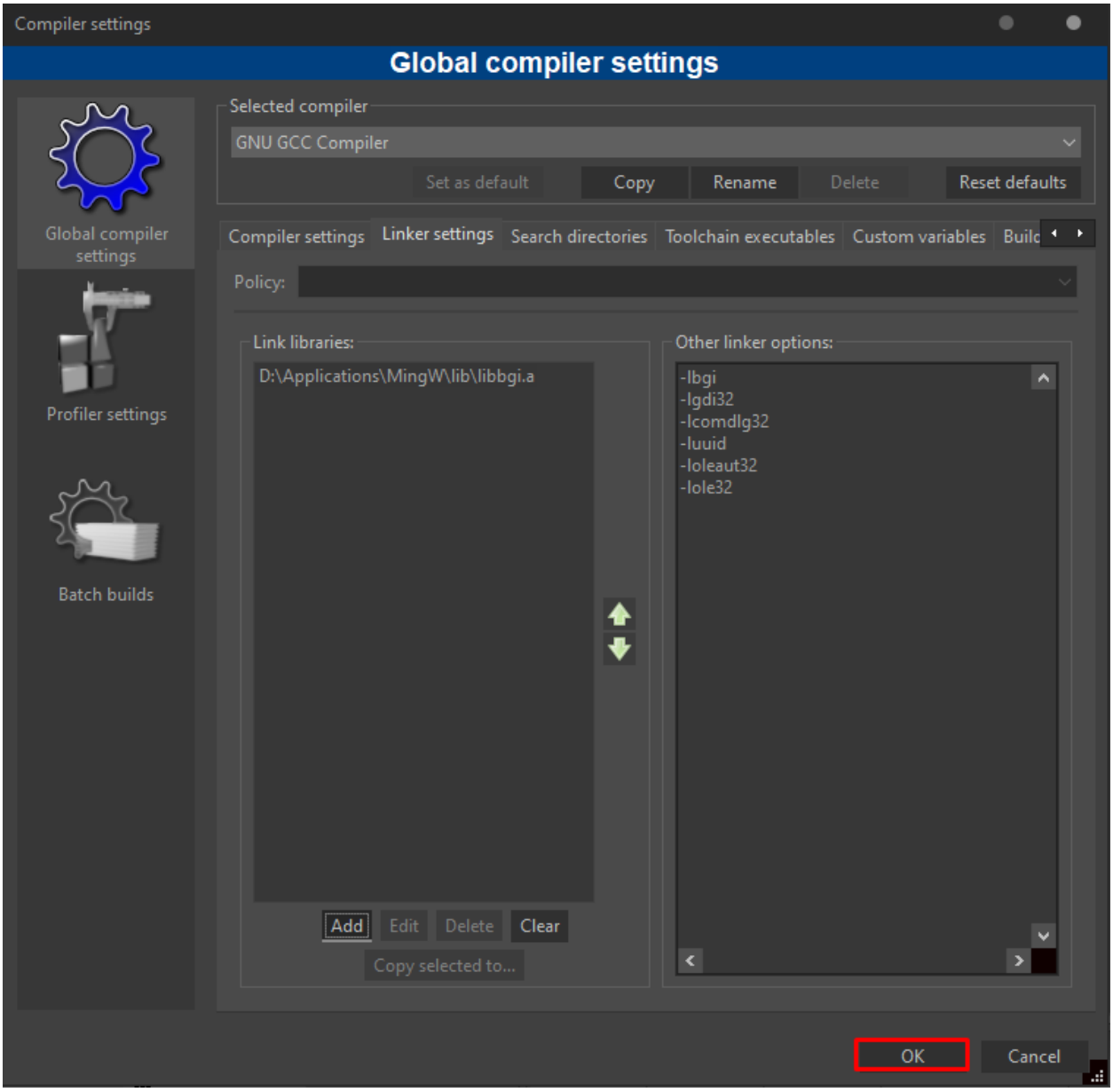
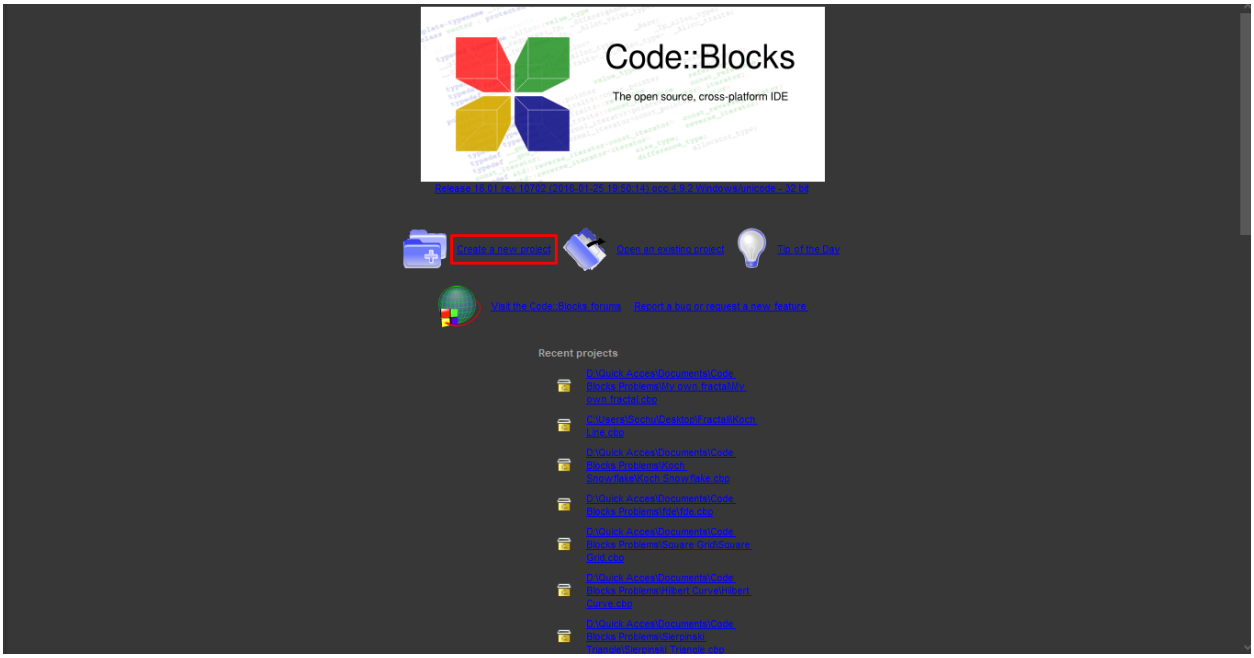
Custom variables
Policy:
Link libraries:
D:\Applications\MingW\lib\libbgi.a
Other linker options:
-lbgi
-lgdi32
-lcomdlg32
-luuid
-loleaut32
Add library
File:
OK
Cancel
Add
Edit
Delete
Clear
Copy selected to...
OK
Cancel

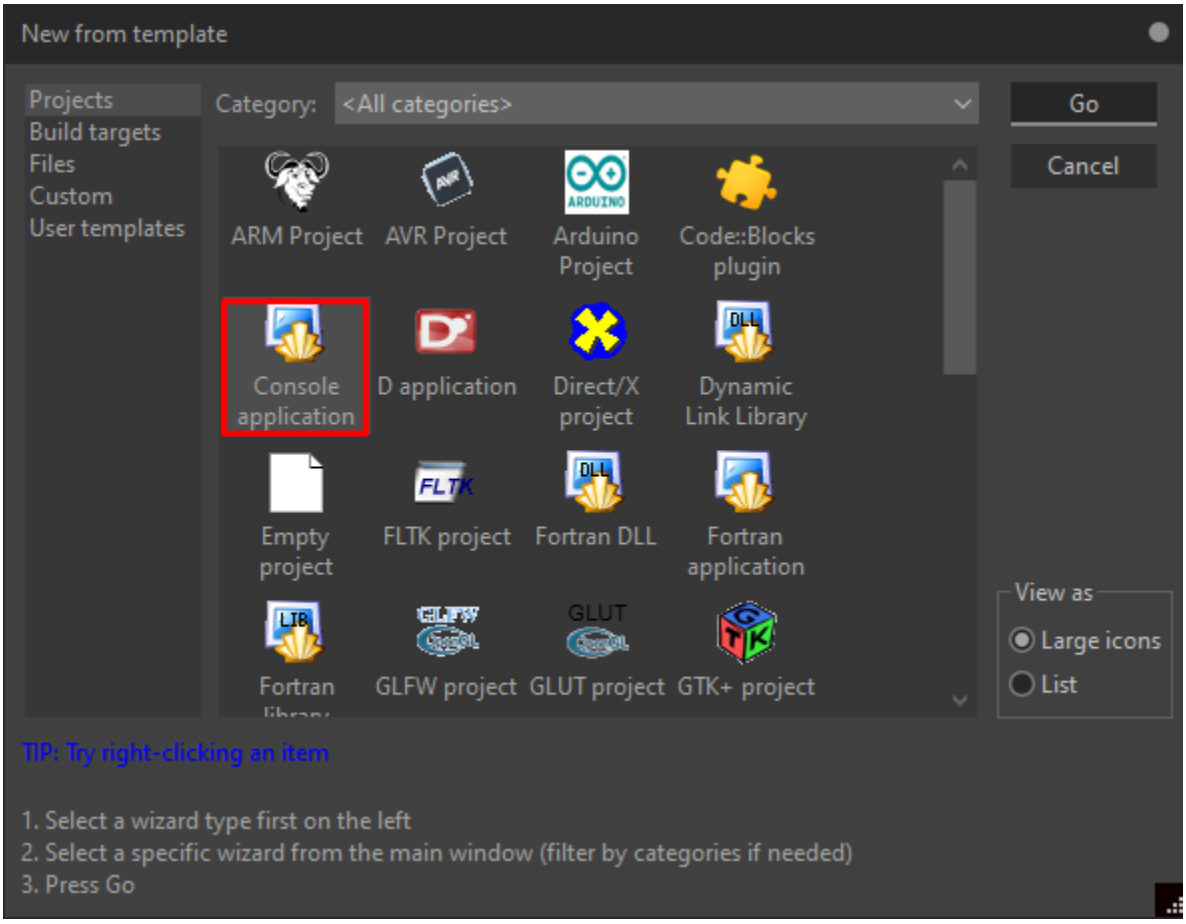


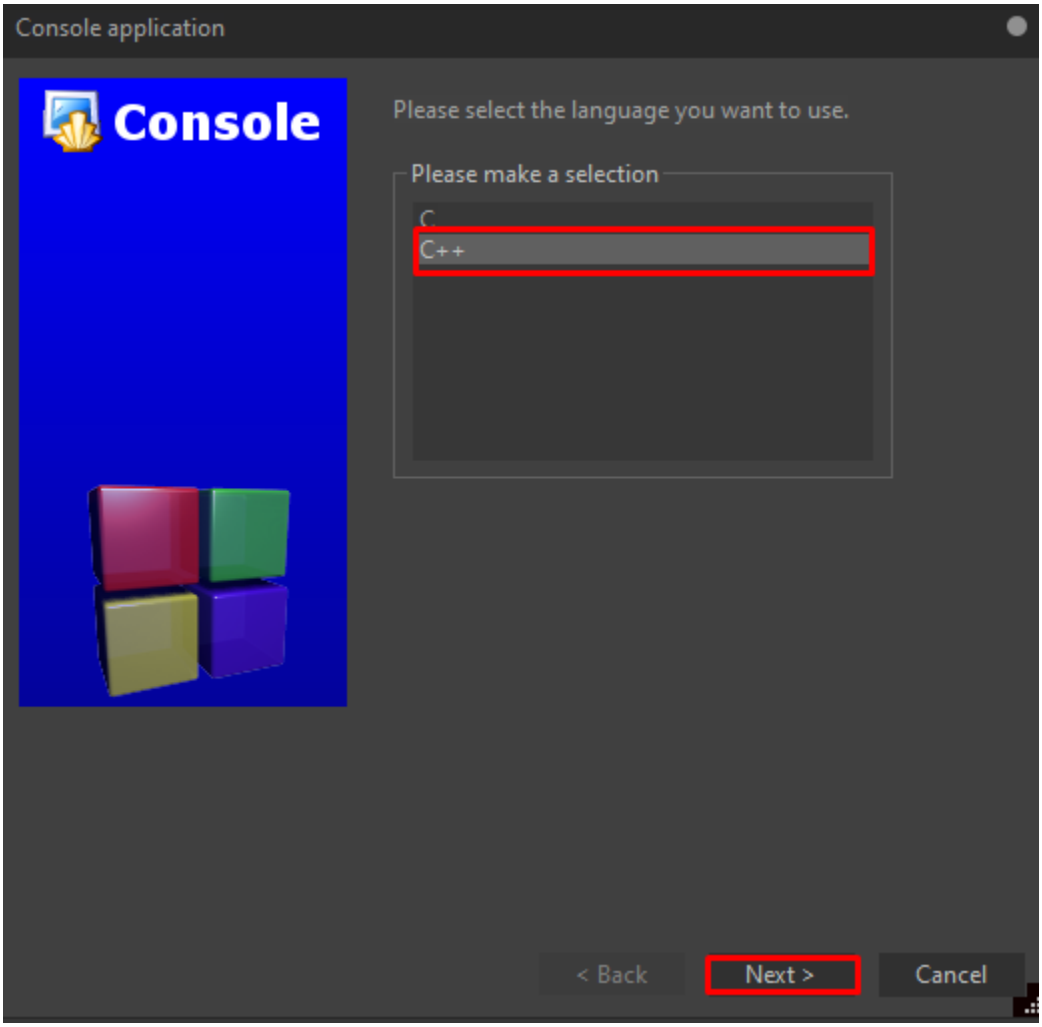
- On the right, at ***Other linker options*** type:
  -lbgi -lgdi32 -lcomdlg32 -luuid -loleaut32 -lole32
- Click **OK**.



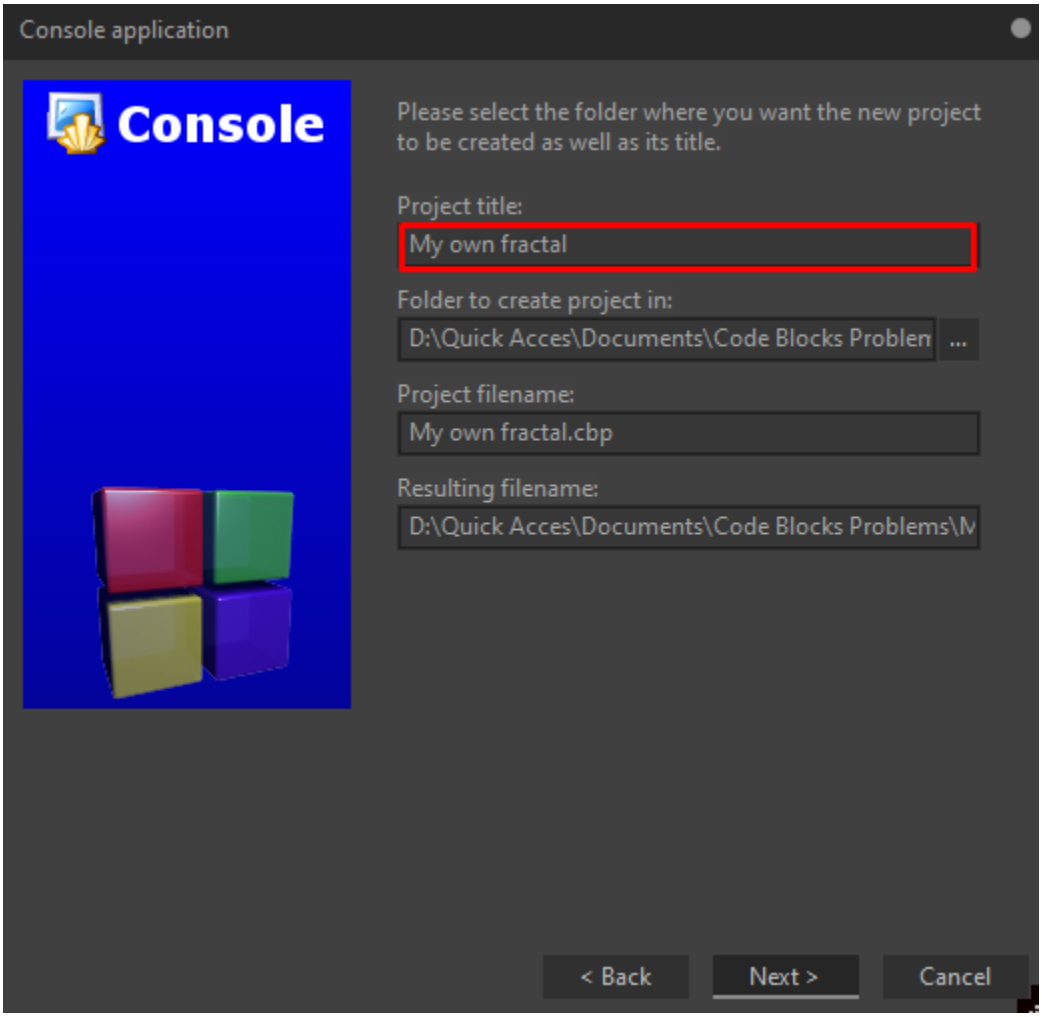
6. Create a new project


Code::Blocks
The open source, cross-platform IDE
Create a new project
Open an existing project
Tip of the Day
Visit the Code::Blocks forums
Report a bug or request a new feature
Recent projects

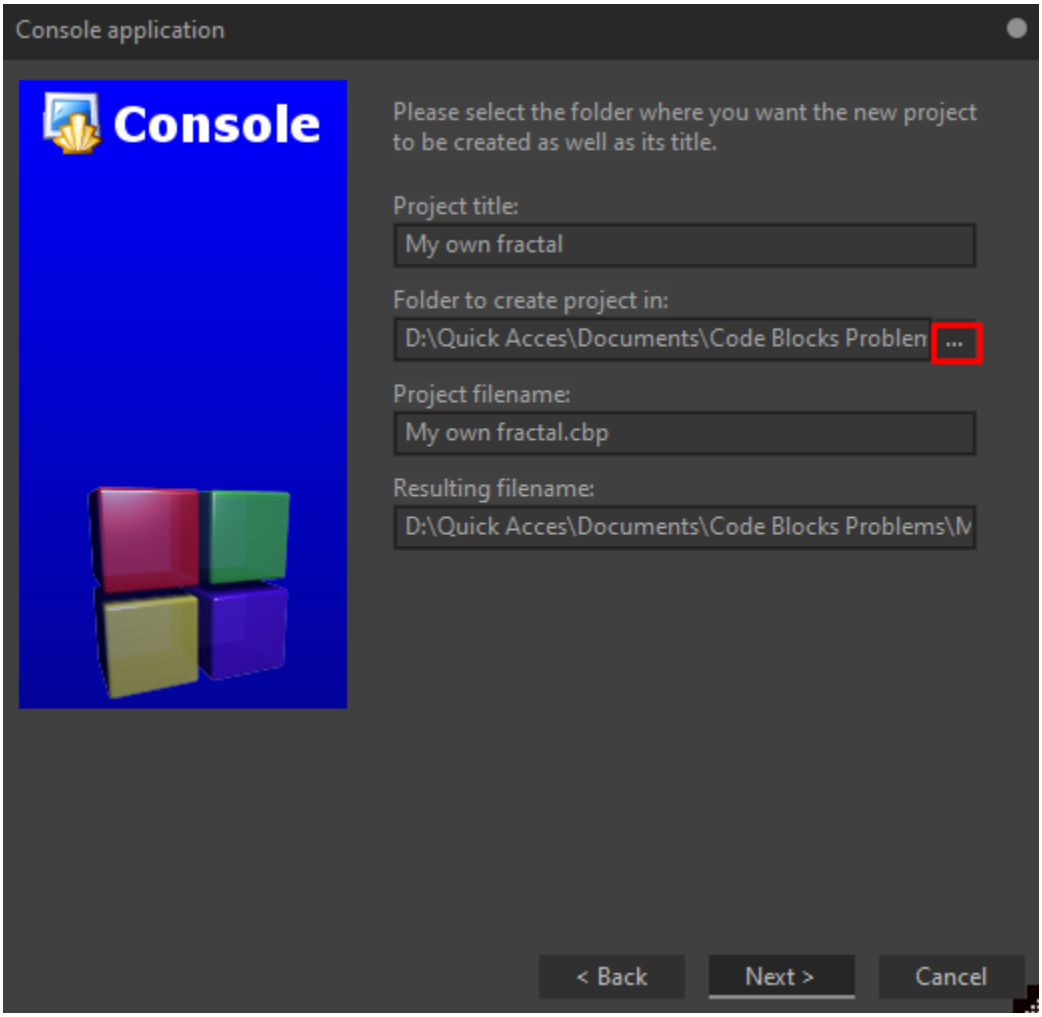

New from template
Projects
Build targets
Files
Custom
User templates
Category:
<All categories>
Go
Cancel
ARM Project
AVR Project
Arduino Project
Code::Blocks plugin
Console application
D application
Direct/X project
Dynamic Link Library
Empty project
FLTK project
Fortran DLL
Fortran application
Fortran
GLFW project
GLUT project
GTK+ project
View as
Large icons
List
TIP: Try right-clicking an item
1. Select a wizard type first on the left
2. Select a specific wizard from the main window (filter by categories if needed)
3. Press Go



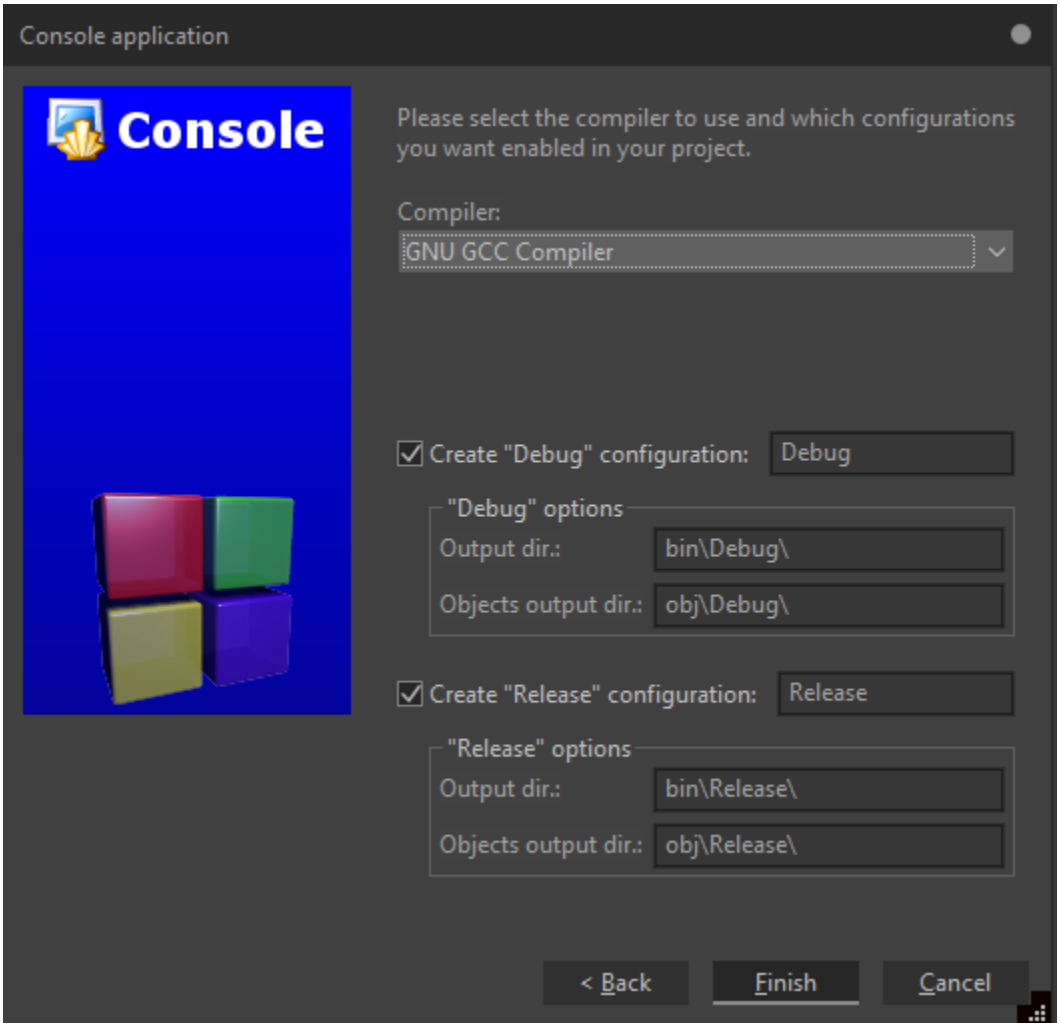
Click C++ and then press ***Next***



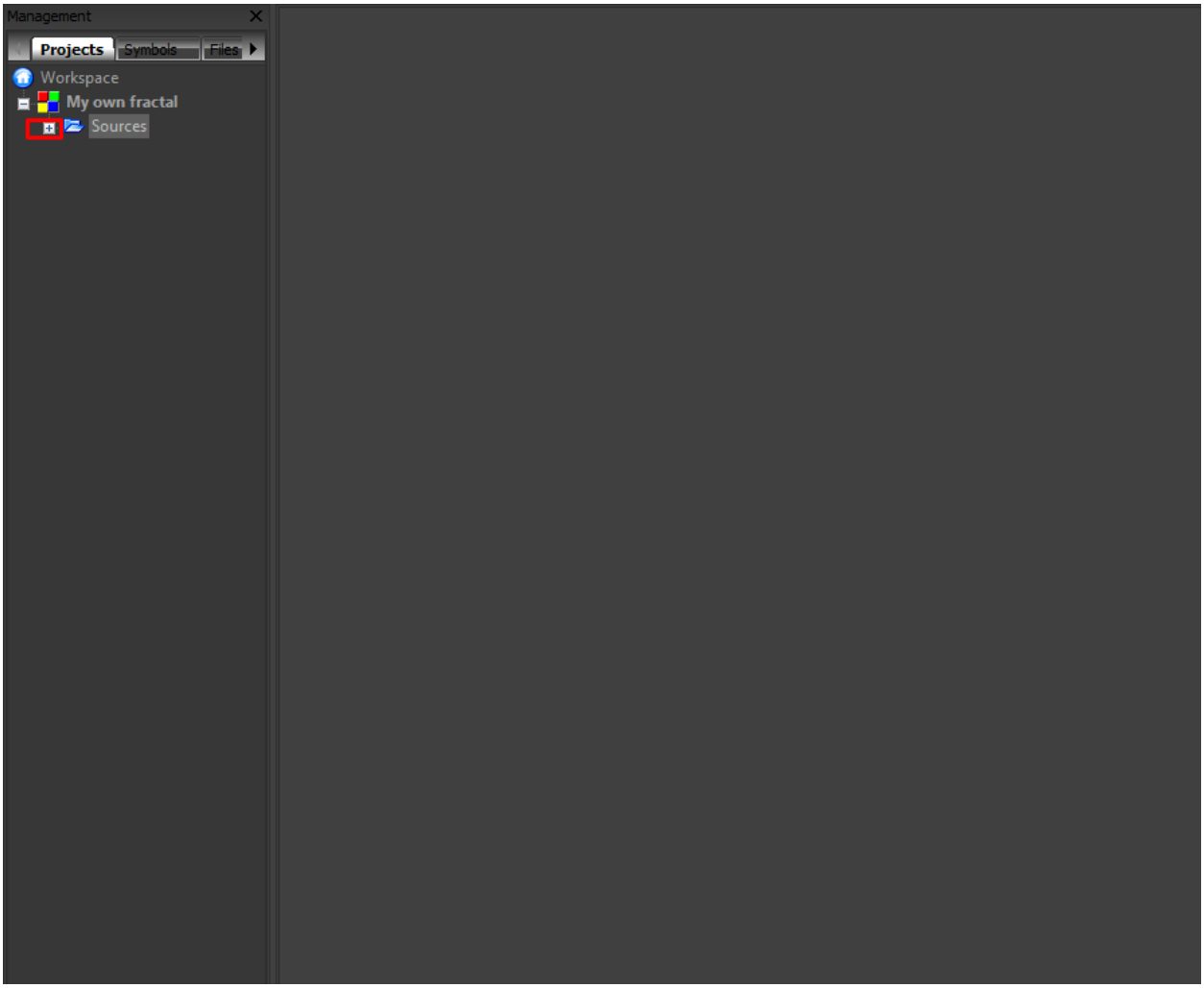
Give the project a name

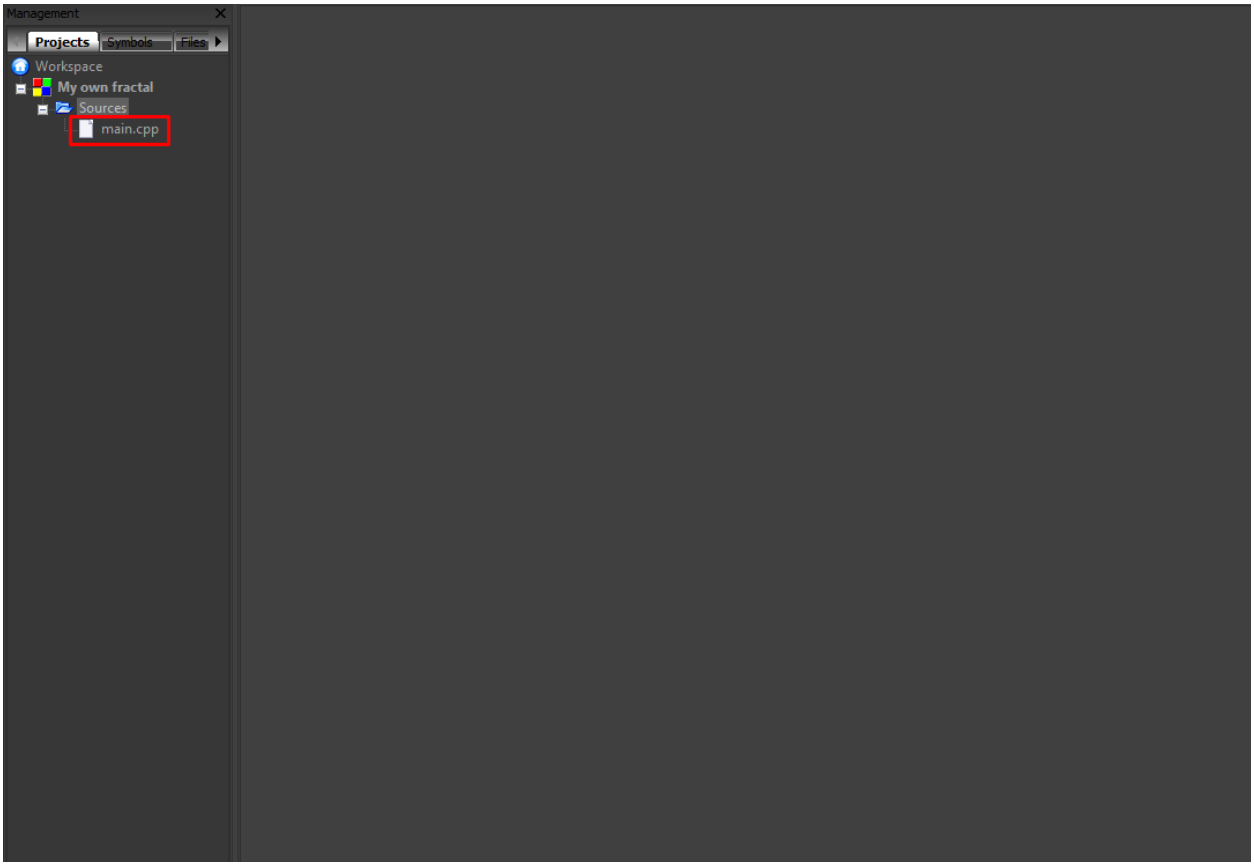


Choose the folder where you want the project to be and then press ***Next***



Press ***Finish***


Management
Projects
Symbols
Files
Workspace
My own fractal
Sources



Double click on ***main.cpp***

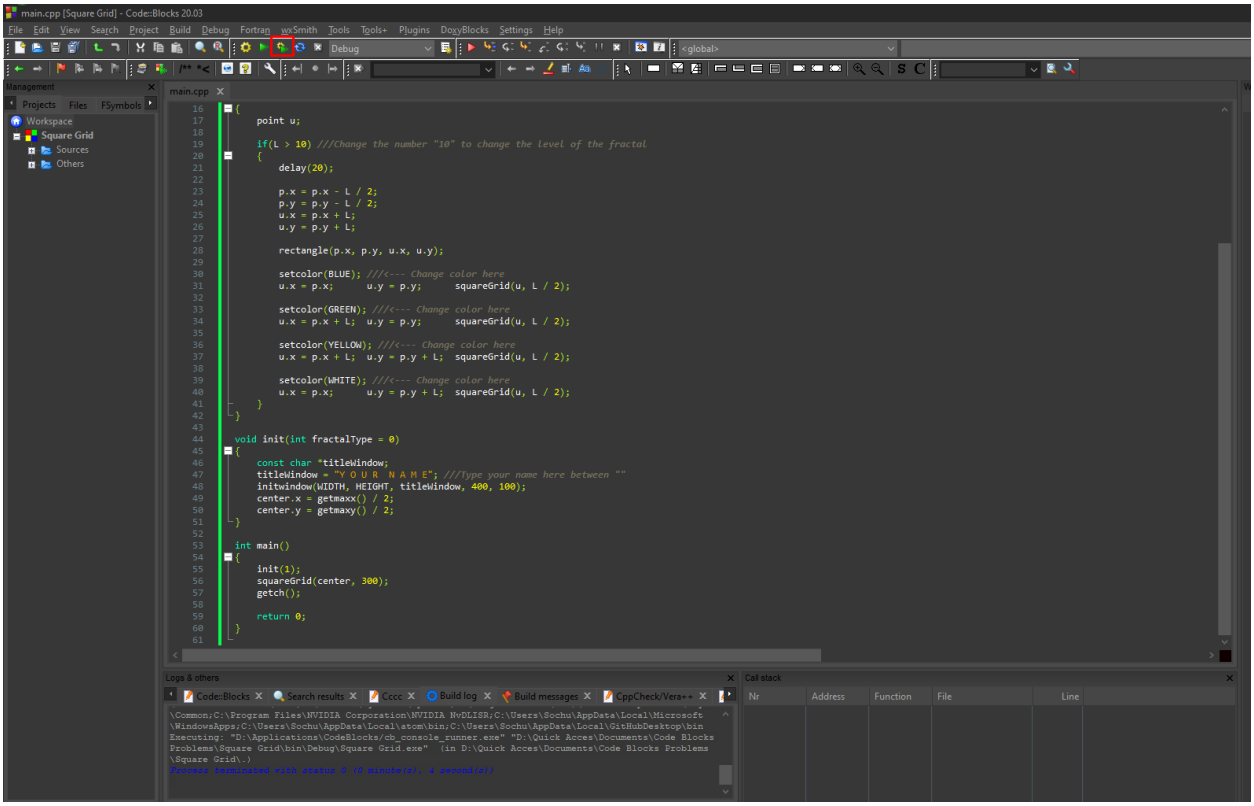
7. Copy the code assigned on your team and paste it in ***main.cpp***
    - Team 1
    - Team 2
    - Team 3
    - Team 4
    - Team 5

8. Explore the code and CHANGE only the lines with "///"

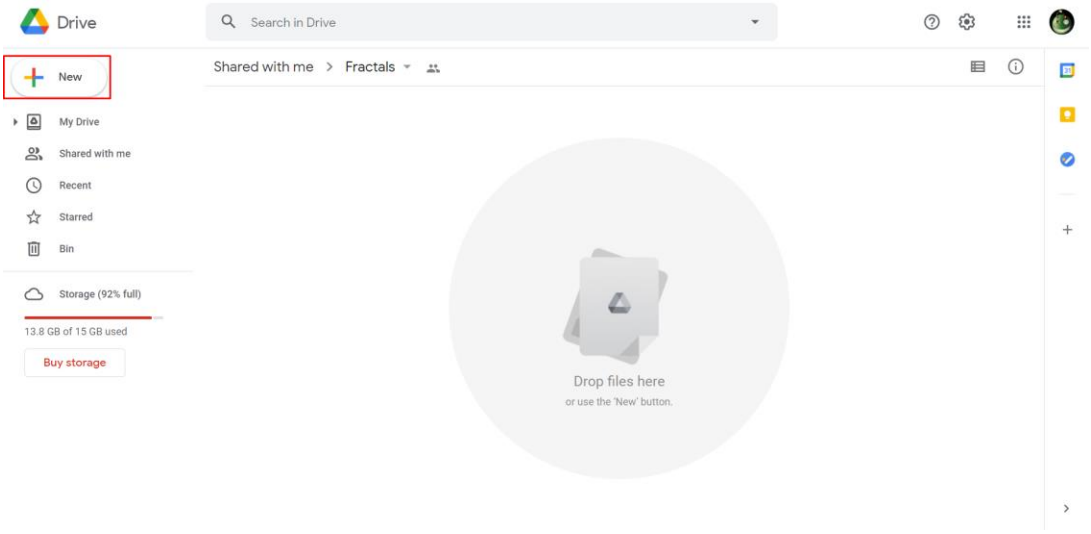
```
    if(L > 10) ///Change the number "10" to change the level of the fractal
    {
        delay(20);

        p.x = p.x - L / 2;
        p.y = p.y - L / 2;
        u.x = p.x + L;
        u.y = p.y + L;

        rectangle(p.x, p.y, u.x, u.y);

        setcolor(BLUE); ///<--- Change color here
        u.x = p.x;      u.y = p.y;      squareGrid(u, L / 2);

        setcolor(GREEN); ///<--- Change color here
        u.x = p.x + L;  u.y = p.y;      squareGrid(u, L / 2);

        setcolor(YELLOW); ///<--- Change color here
        u.x = p.x + L;  u.y = p.y + L;  squareGrid(u, L / 2);

        setcolor(WHITE); ///<--- Change color here
        u.x = p.x;      u.y = p.y + L;  squareGrid(u, L / 2);
    }
}

void init(int fractalType = 0)
{
    const char *titleWindow;
    titleWindow = "Y O U R  N A M E"; ///Type your name here between ""
    initwindow(WIDTH, HEIGHT, titleWindow, 400, 100);
    center.x = getmaxx() / 2;
    center.y = getmaxy() / 2;
}

int main()
{
    init(1);
    squareGrid(center, 300);
    getch();
```

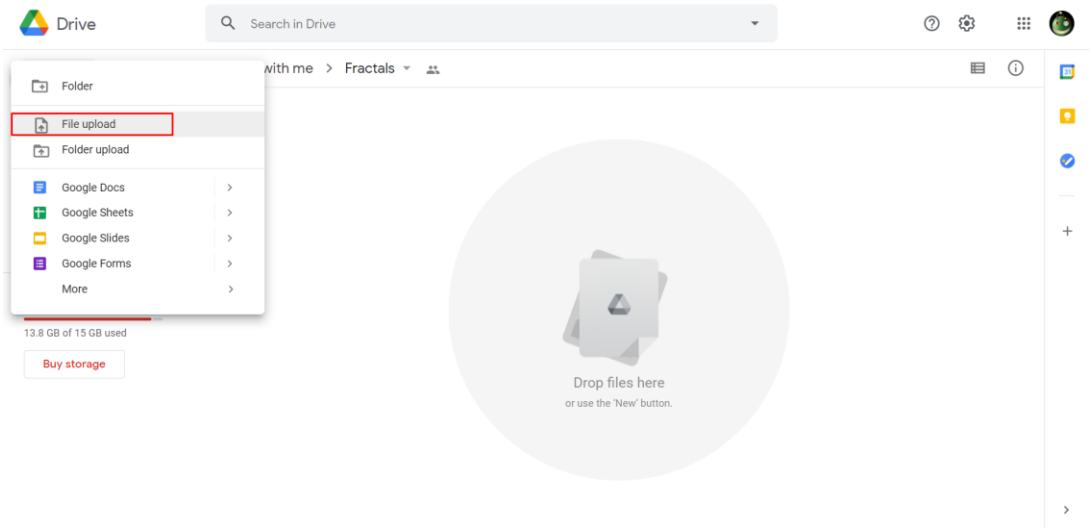
The colors that you can fill there are: BLACK, BLUE, GREEN, CYAN, RED, MAGENTA, BROWN, LIGHTGRAY, DARKGRAY, LIGHTBLUE, LIGHTGREEN, LIGHTCYAN, LIGHTRED, LIGHTMAGENTA, YELLOW, WHITE

9. ***Press here to see your own creation !!!***



10. Take a **<u>screenshot of your creation</u>** and post it here





Find the screenshot and press **"<u>Open</u>"**

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