



File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Management Start here

Projects Files FSymbols Workspace

Code::Blocks  
The open source, cross-platform IDE

Release 20.03 rev 11983 (2020-03-12 18:24:30) gcc 8.1.0 Windows/unicode - 64 bit

Create a new project Open an existing project Tip of the Day

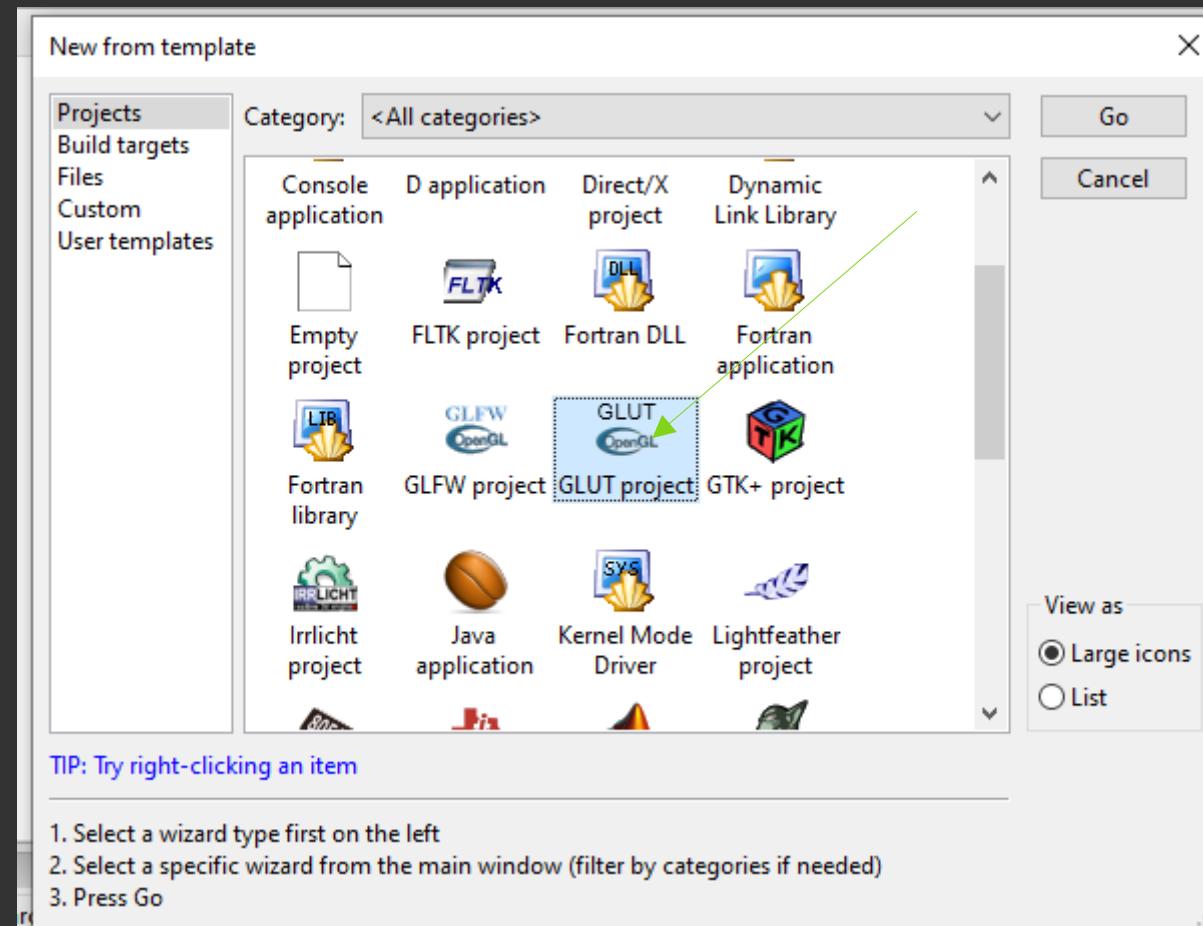
Visit the Code::Blocks forums Report a bug or request a new feature

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy X

File	Line	Message

default



GLUT project



Welcome to the new GLUT project wizard!

This wizard will guide you to create a new project using the GLUT OpenGL extensions.

When you're ready to proceed, please click "Next"...

Skip this page next time

< Back

Next >

Cancel

## GLUT project



Please select the folder where you want the new project to be created as well as its title.

Project title:

Folder to create project in:

...

Project filename:

Resulting filename:

**Nome e local**

< Back

Next >

Cancel

## GLUT project



Please select the location of GLUT on your computer.  
This is the top-level folder where GLUT was installed (unpacked).  
To help you, this folder must contain the subfolders  
"include" and "lib".

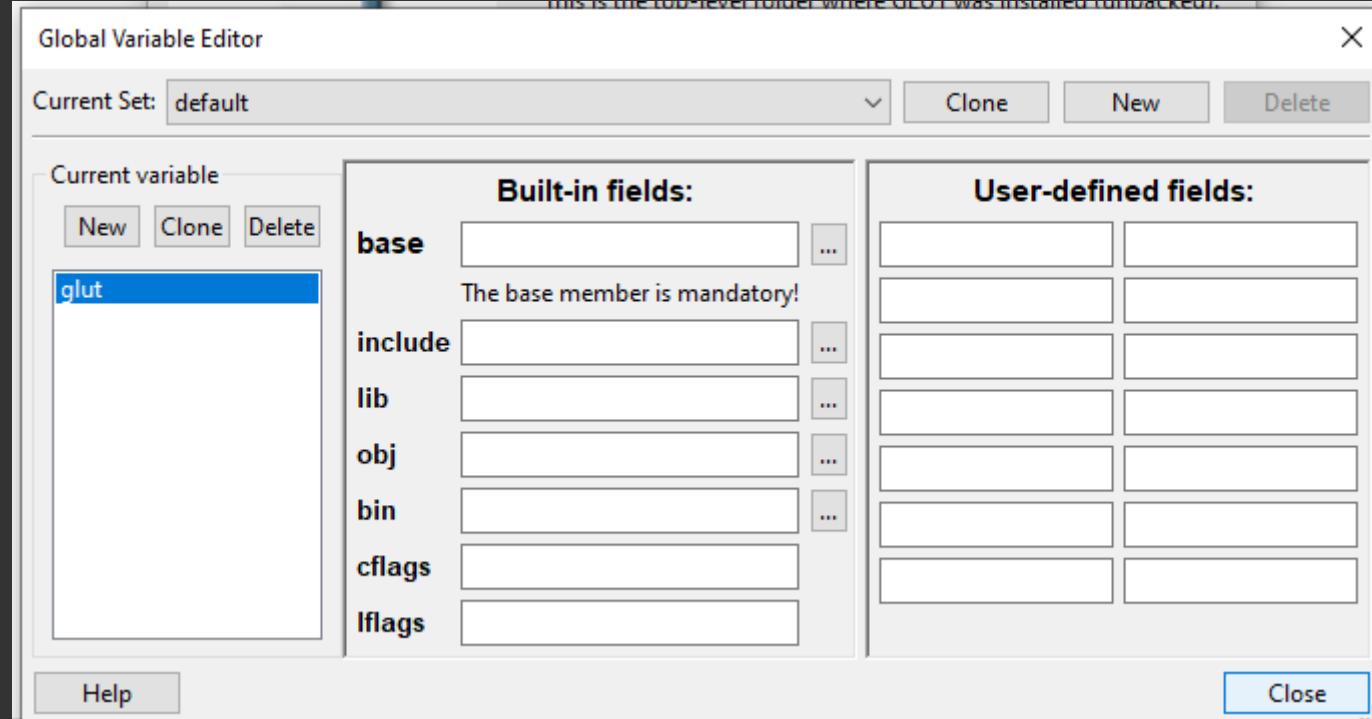
Please select GLUT's location:

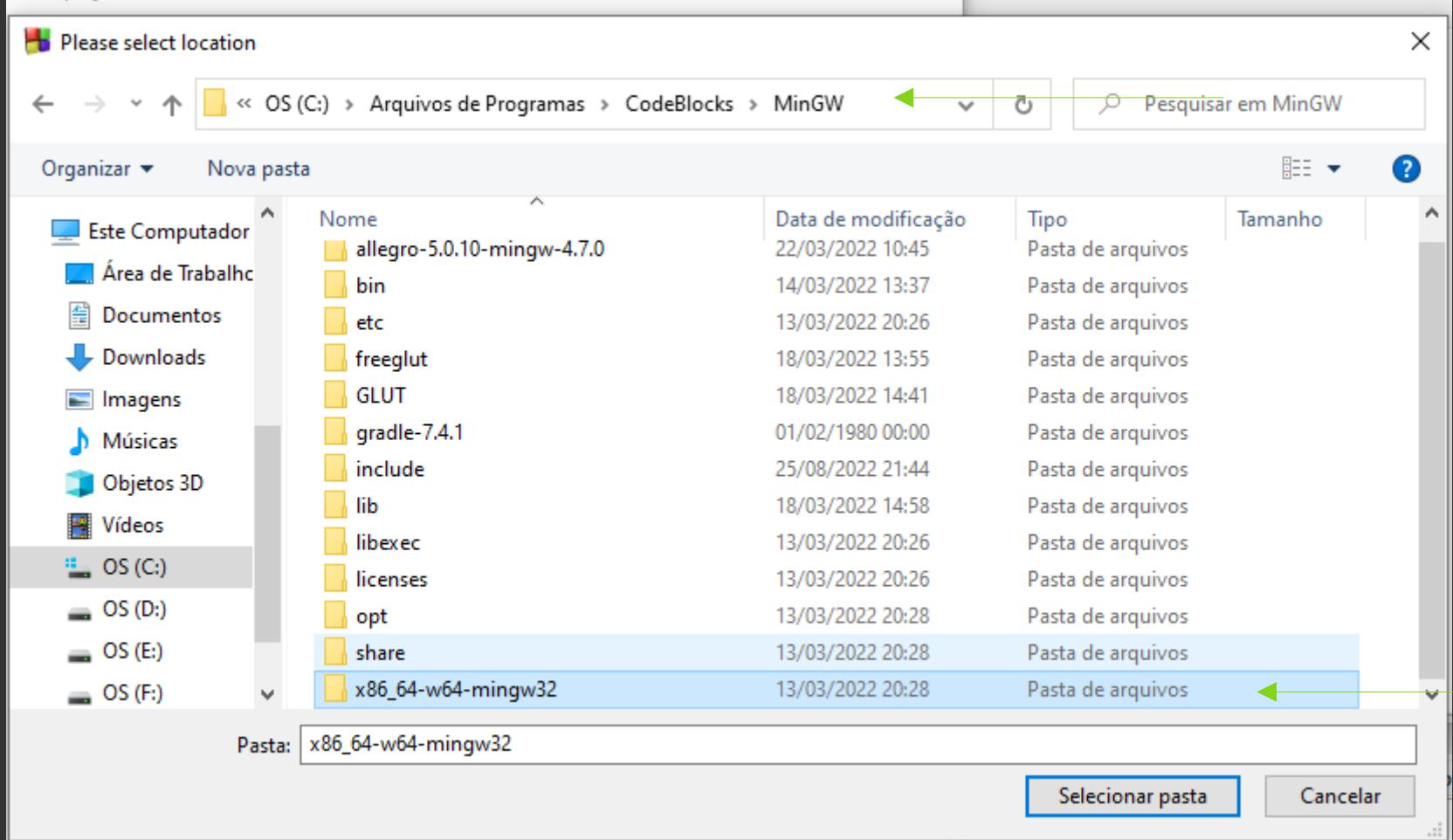


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Next >

Cancel





GLUT project

X



Please select the location of GLUT on your computer.  
This is the top-level folder where GLUT was installed (unpacked).  
To help you, this folder must contain the subfolders  
"include" and "lib".

Please select GLUT's location:

C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw



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Next >

Cancel

GLUT project

X



Please select the compiler to use and which configurations you want enabled in your project.

Compiler:

GNU GCC Compiler

Create "Debug" configuration: Debug

"Debug" options

Output dir.: bin\Debug\

Objects output dir.: obj\Debug\

Create "Release" configuration: Release

"Release" options

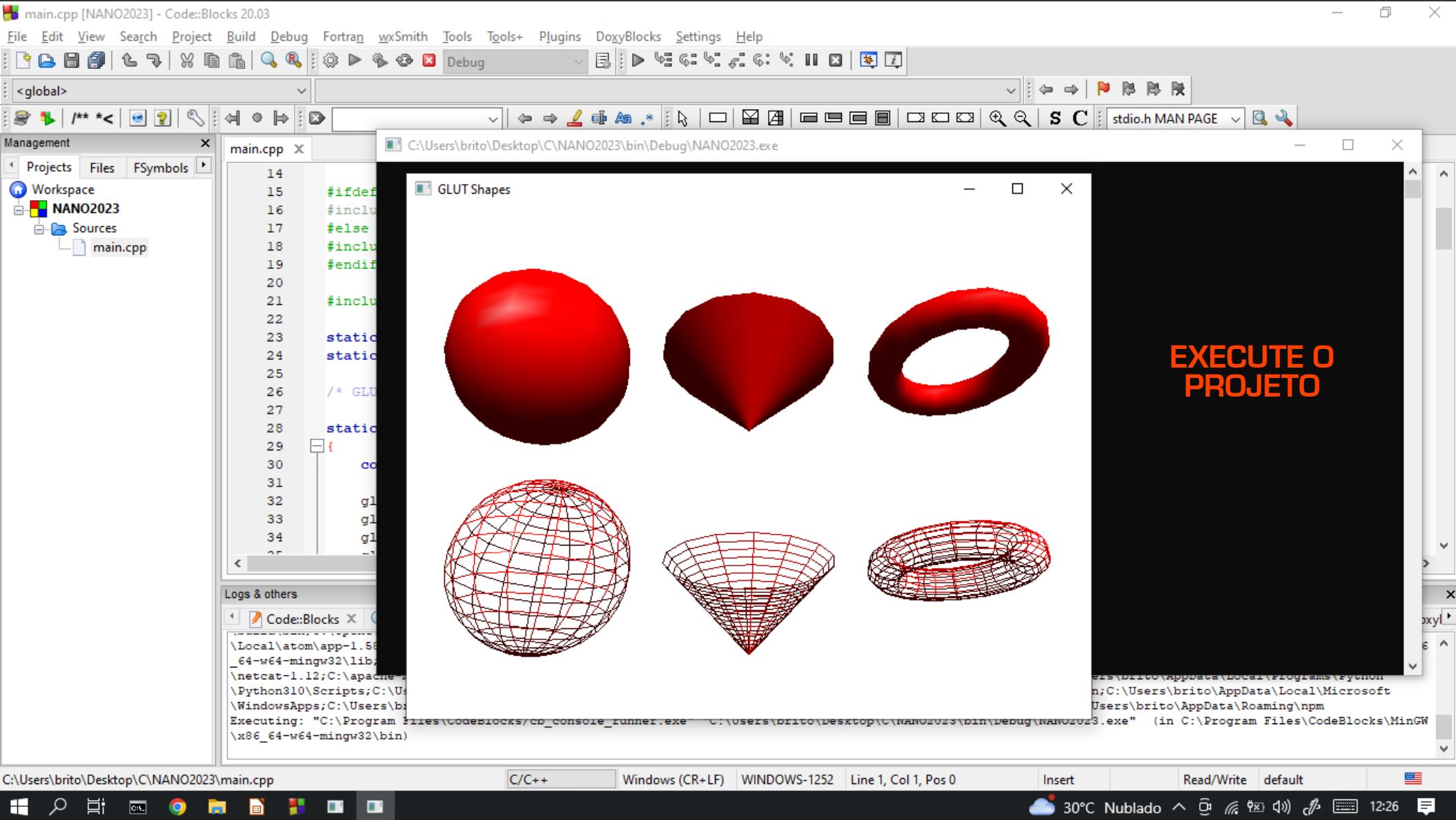
Output dir.: bin\Release\

Objects output dir.: obj\Release\

< Back

Finish

Cancel



main.cpp [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global>

Management X

Projects Files FSymbols

Workspace NANO2023

Sources main.cpp

Save main.cpp  
Close main.cpp  
Open with >  
**Remove file from project**  
Format this file (AStyle)  
Reparse this file

Build file  
Clean file  
Options >  
Properties...

main.cpp X

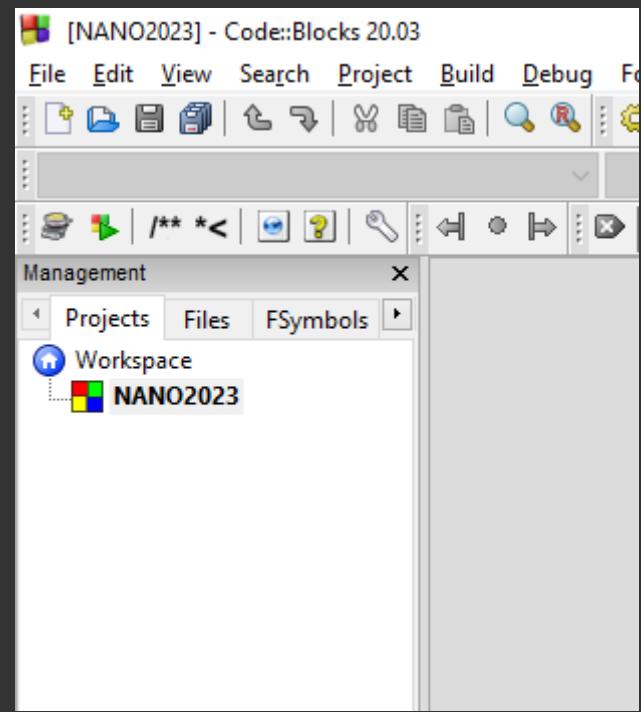
```
14
15 #ifdef __APPLE__
16 #include <GLUT/glut.h>
17 #else
18 #include <GL/glut.h>
19 f
20 ude <stdlib.h>
21 c int slices = 16;
22 c int stacks = 16;
23 UT callback Handlers */
24
25 c void resize(int width, int height)
26 const float ar = (float) width / (float) height;
27
28 LViewport(0, 0, width, height);
29 glMatrixMode(GL_PROJECTION);
30 glLoadIdentity();
31 gluPerspective(45.0, ar, 0.1, 100.0);
```

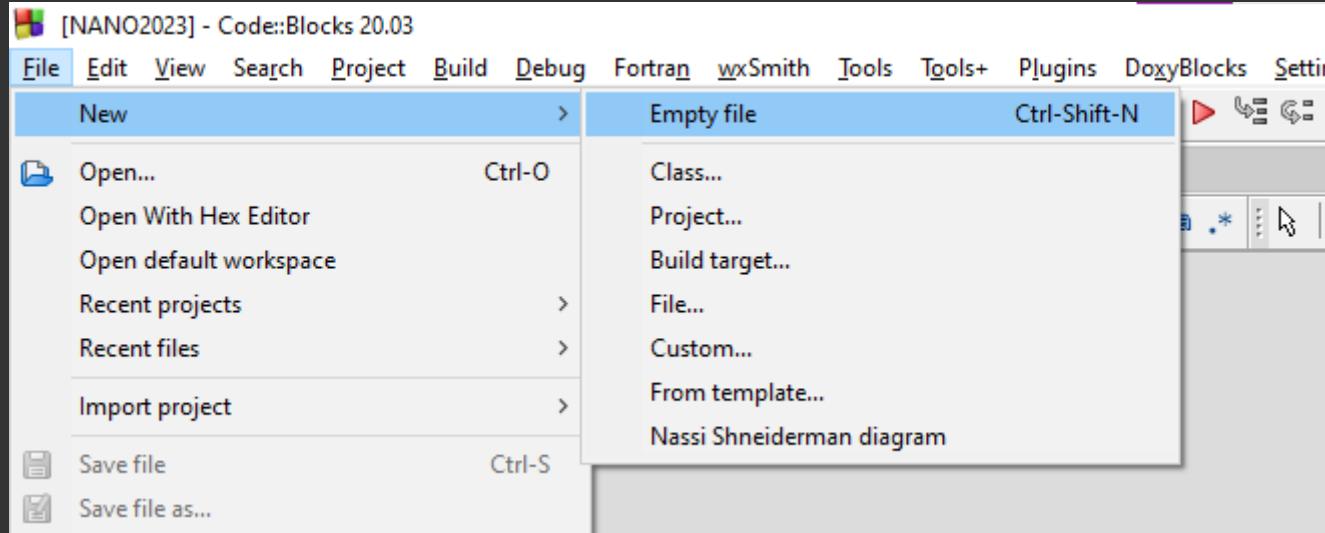
Logs & others

Code::Blocks X Search results X Cccc X Build log X Build messages X CppCheck/Vera

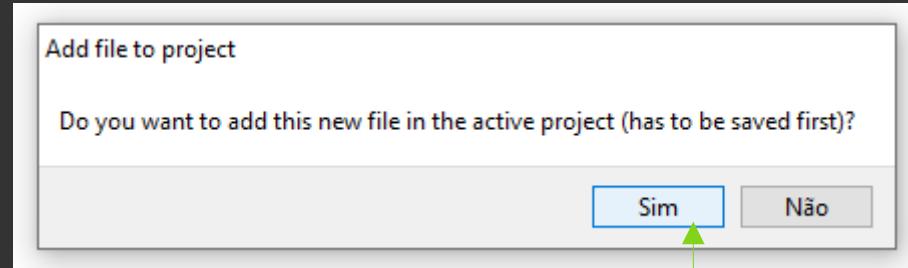
\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\My

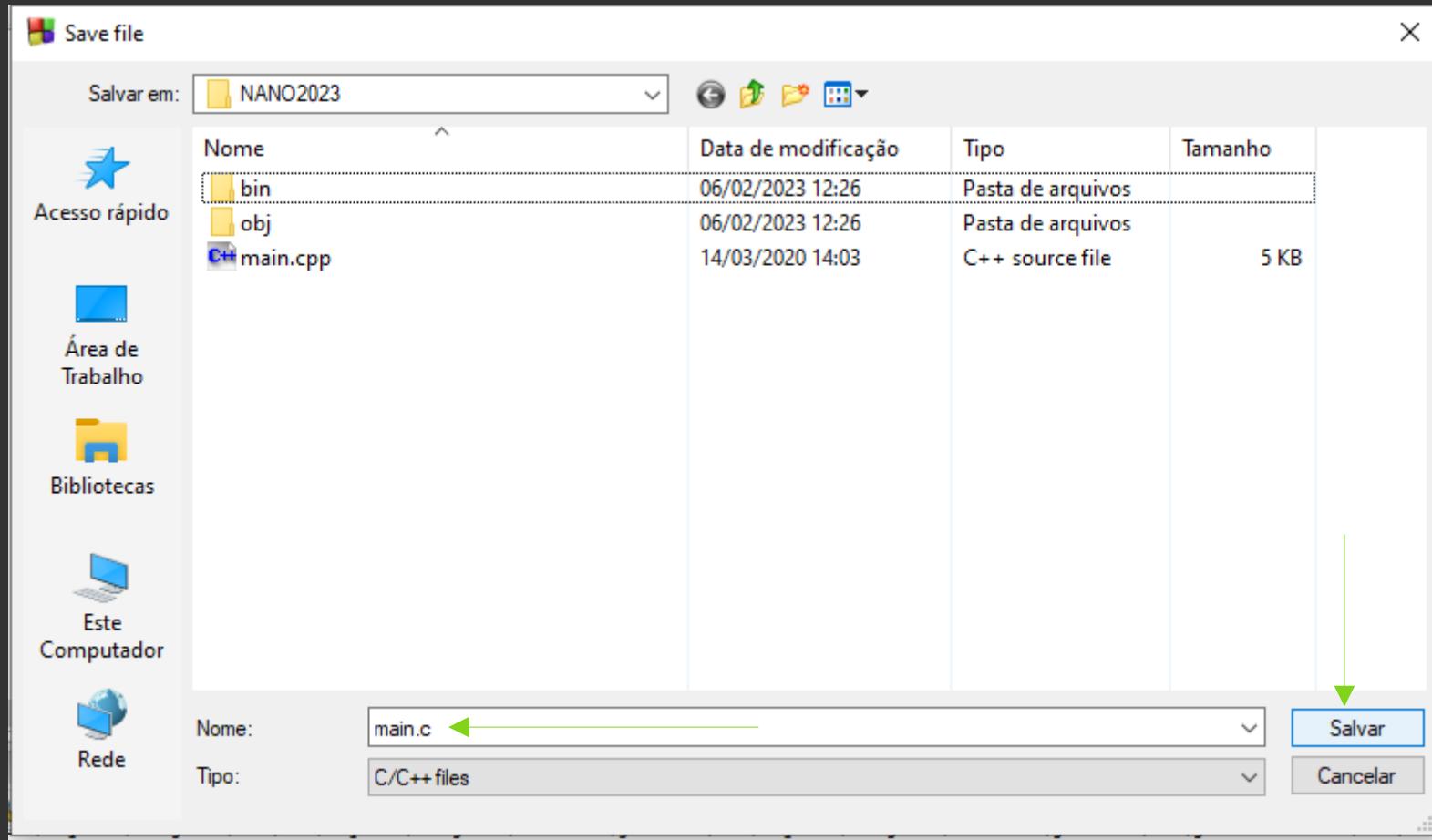
**Delete o arquivo .cpp  
E crie um arquivo .c**



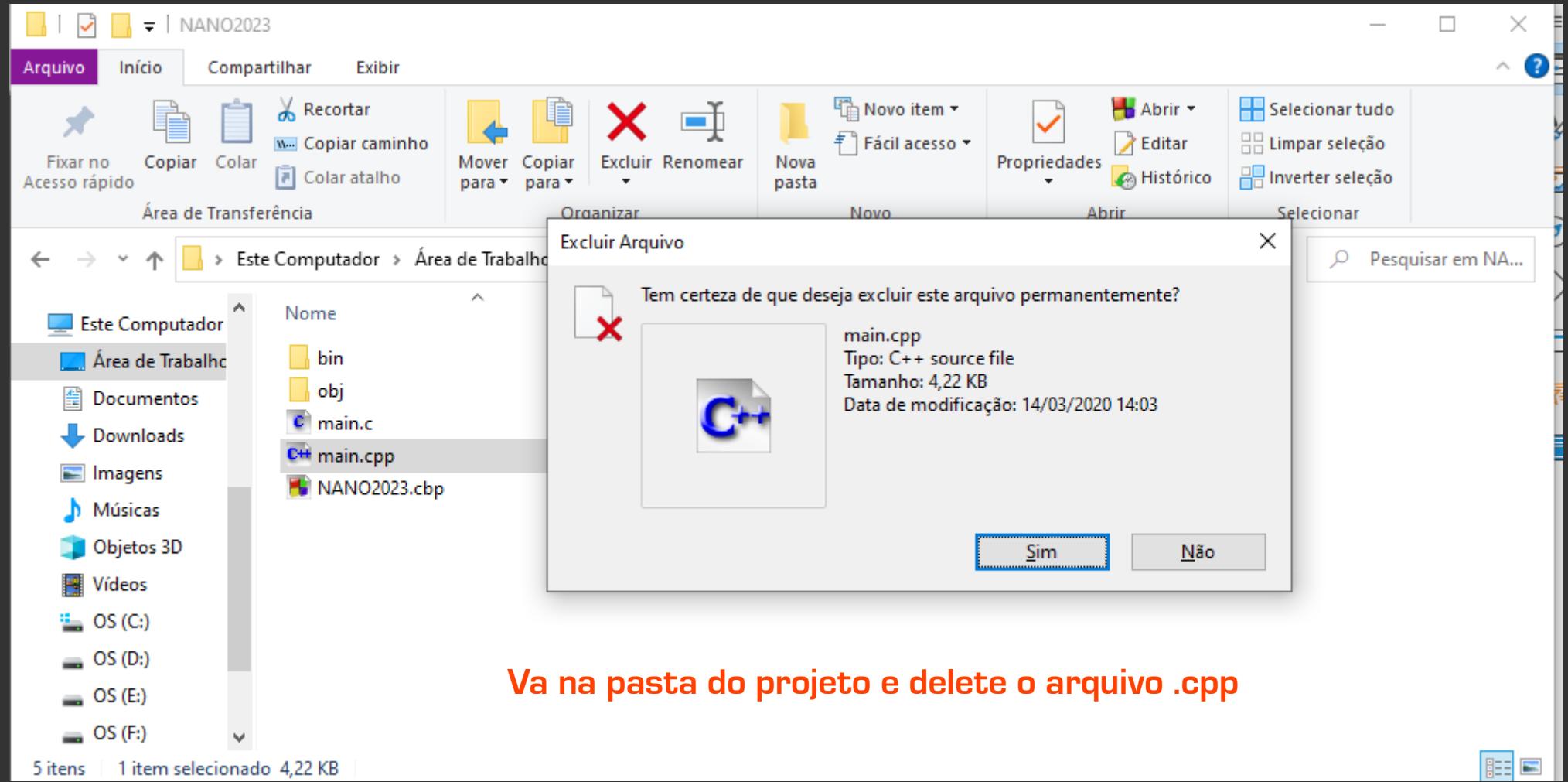


Crie o arquivo main.c





Coloque o nome de main.c e salve



NANO2023

Arquivo Início Compartilhar Exibir

Fixar no Acesso rápido Copiar Colar Recortar Copiar caminho Colar atalho Mover para Copiar para Excluir Renomear Nova pasta Novo item Fácil acesso Propriedades Abrir Histórico Selecionar tudo Limpar seleção Inverter seleção

Área de Transferência Organizar Novo Abrir Selecionar

Este Computador > Área de Trabalho > C > NANO2023

Pesquisar

Nome	Data de modificação	Tipo	Tamanho
bin	06/02/2023 12:26	Pasta de arquivos	
obj	06/02/2023 12:26	Pasta de arquivos	
main.c	06/02/2023 12:28	C source file	1 KB
NANO2023.cbp	06/02/2023 12:26	project file	2 KB

Este Computador

Área de Trabalho

Documentos

Downloads

Imagens

Músicas

Objetos 3D

Vídeos

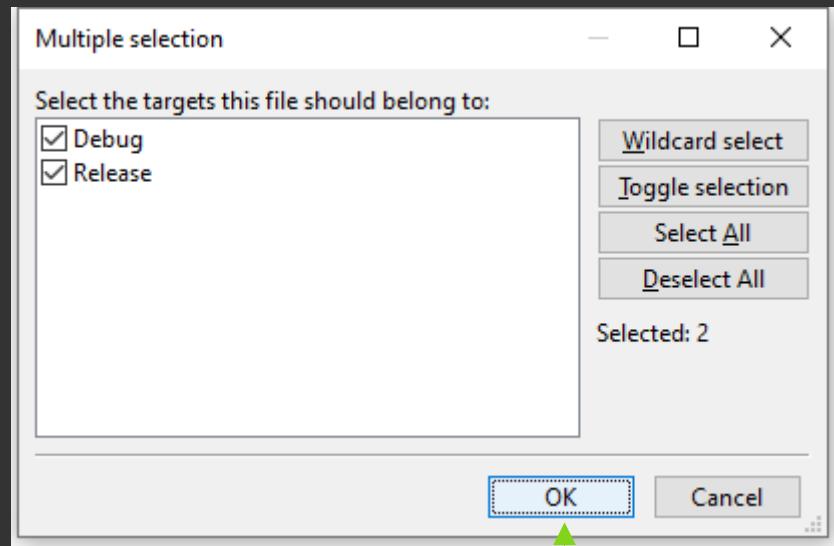
OS (C:)

OS (D:)

OS (E:)

OS (F:)

4 itens



main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Management

Projects Files FSymbols

Workspace NANO2023 Sources main.c

main.c X

```
1
2
```

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

```
\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm
Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "C:\Users\brito\Desktop\C\NANO2023\bin\Debug\NANO2023.exe" (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
Process terminated with status -1073741510 (0 minute(s), 14 second(s))
```

C:\Users\brito\Desktop\C\NANO2023\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 1, Col 1, Pos 0 Insert Read/Write default 30°C Nublado 12:32



The screenshot shows the Code::Blocks 20.03 IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. The status bar at the bottom shows "main(): int". The left sidebar has a "Management" tab with "Projects", "Files", and "FSymbols" tabs. Under "Workspace", there is a "NANO2023" project with a "Sources" folder containing "main.c". The main editor window displays the following C code:

```
1 int main()
2 {
3     glutI
4     (●) glutGetWindow(): int
5     (●) glutHideOverlay(): void
6     (●) glutHideWindow(): void
    (●) glutIconifyWindow(): void
    (●) glutIdleFunc(): void
    (●) glutIgnoreKeyRepeat(): void
    # glutInit
    (●) glutInit(): void
    (●) glutInitDisplayMode(): void
    (●) glutInitDisplayString(): void
    (●) glutInitWindowSize(): void
    (●) glutInitWindowSize(): void
```

The code completion dropdown is open, showing several glut-related functions. The function "glutInit()" is highlighted with a blue selection bar.

Quando digitamos glut + primeira letra da função as opções aparecem

**Todas os nomes das funções começam com glut**

The screenshot shows the Code::Blocks IDE interface. The title bar reads "main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. The status bar at the bottom shows "Debug". The code editor window displays the following C code:

```
int main()
{
    glutInit();
    return 0;
}
```

A tooltip or callout box is overlaid on the code editor, highlighting the line "void glutInit(int\* argc, char\*\* argv)" and "void glutInit\_AT\_EXIT\_HACK(int\* argc, char\*\* argv)". The tooltip text is:  
void glutInit(int\* argc, char\*\* argv)  
void glutInit\_AT\_EXIT\_HACK(int\* argc, char\*\* argv)

Deixando o ponteiro dentro dos parentesis da função aparecem os parametros  
que devemos passar para a função funcionar e seu tipo de retorno  
Nesse caso temos que passar um ponteiro pra int, e um ponteiro pra ponteiro  
pra char

The screenshot shows the Code::Blocks 20.03 IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, and Help. The toolbar has icons for file operations like Open, Save, Print, and Build. The status bar shows "Debug". The left sidebar is titled "Management" with tabs for Projects, Files, and FSymbols. Under "Projects", there is a "Workspace" node with a "NANO2023" project expanded, showing a "Sources" folder containing "main.c". The main editor window is titled "\*main.c" and contains the following C code:

```
1 int main(int C, char *V[])
2 {
3     glutInit(&C, V);
4     return 0;
5 }
6
```

Passamos os parametros necessarios a função

The screenshot shows the Code::Blocks IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. The status bar at the bottom shows "main(int C, char\* V[]) : int". The left sidebar is titled "Management" and contains tabs for Projects, Files, and FSymbols. Under "Projects", there is a "Workspace" section with a "NANO2023" project containing a "Sources" folder with "main.c". The main editor window is titled "\*main.c" and displays the following code:

```
1 int main(int C, char *V[])
2 {
3     glutInit(&C,V);
4
5     // INICIALIZANDO
6     glutCreateWindow();
7     return 0;
8 }
```

A tooltip box appears over the closing brace of the main function, containing the definitions for `int glutCreateWindow(const char* title)` and `int glutCreateWindow_ATEXIT_HACK(const char* title)`.

Olhando os parametros que devem ser passados a função temos  
Um const char\* title que retorna um int  
Nesse caso um endereço de memoria de algum texto que vamos escrever

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global> main(int C, char\* V[]) : int

Management X \*main.c X

```
1 int main(int C, char *V[])
2 {
3     glutInit(&C, V);
4
5     // INICIALIZANDO
6     glutCreateWindow("BASIC WINDOW OPENGL");
7     return 0;
8 }
```

main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global> main(int C, char\* V[]) : int

Management

Projects Files FSymbols

Workspace NANO2023 Sources main.c

int main(int C, char \*V[]){  
 glutInit(&C,V);  
  
 // INICIALIZANDO  
 glutCreateWindow ("BASIC WINDOW OPENGL");  
 return 0;  
}

Click em build  
Repare no erro que da vamos  
concerta

Logs & others

Code::Blocks X Search results X Cccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

File	Line	Message
C:\Users\brit...		== Build: Debug in NANO2023 (compiler: GNU GCC Compiler) ==
C:\Users\brit...	3	In function 'main':
C:\Users\brit...	3	warning: implicit declaration of function 'glutInit' [-Wimplicit-function-declaration]
C:\Users\brit...	6	warning: implicit declaration of function 'glutCreateWindow' [-Wimplicit-function-decl...]
		== Build finished: 0 error(s), 2 warning(s) (0 minute(s), 0 second(s)) ==

C:\Users\britto\Desktop\C\NANO2023\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 6, Col 45, Pos 120 Insert Read/Write default 31°C Nublado 12:54

main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global>

main(int C, char\* V[]) : int

Management

Projects Files FSymbols

Workspace NANO2023 Sources main.c

int main(int C, char \*V[]){  
 glutInit(&C,V);  
  
 // INICIALIZANDO  
 glutCreateWindow ("BASIC WINDOW OPENGL");  
 return 0;  
}

Logs & others

Code::Blocks X Search results X Cccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

File	Line	Message
C:\Users\brit...		== Build: Debug in NANO2023 (compiler: GNU GCC Compiler) ==
C:\Users\brit...	3	In function 'main':
C:\Users\brit...	3	warning: implicit declaration of function 'glutInit' [-Wimplicit-function-declaration]
C:\Users\brit...	6	warning: implicit declaration of function 'glutCreateWindow' [-Wimplicit-function-decl...
		== Build finished: 0 error(s), 2 warning(s) (0 minute(s), 0 second(s)) ==
		== Run: Debug in NANO2023 (compiler: GNU GCC Compiler) ==

C:\Users\brito\Desktop\C\NANO2023\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 6, Col 45, Pos 120 Insert Read/Write default 31°C Nublado 12:57

Agora de run e veja o erro

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

\*main.c X

```
1 #include <GL/
2
3 int main()
4 {
5     glut
6     // i
7     glut
8     retu
9
10
11 }
```

GL/freeglut.h  
GL/freeglut\_ext.h  
GL/freeglut\_std.h  
GL/gl.h  
GL/glaux.h  
GL/glcorearb.h  
GL/glext.h  
GL/glu.h  
GL/glut.h  
GL/glxext.h  
GL/wglext.h

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global>

Management

Projects Files FSymbols

Workspace

NANO2023

Sources

main.c

```
1 #include <GL/glut.h>
2
3 int main(int C, char *V[])
4 {
5     glutInit(&C,V);
6
7     // INICIALIZANDO
8     glutCreateWindow("BASIC WINDOW OPENGL");
9     return 0;
10 }
11
```

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins Doxy

<global>

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

\*main.c X

```
1 #include <GL/|
2 #include <GL/freeglut.h
3 int main()
4 {
5     glut
6     GL/gl.h
7     // GL/glaux.h
8     GL/glcorearb.h
9     GL/glext.h
10    return 0;
11 }
```

GL/glu.h

GL/glut.h

GL/glxext.h

GL/wglext.h

A screenshot of the Code::Blocks IDE interface. The title bar shows the current file is \*main.c and it's part of the NANO2023 project. The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, and Doxy. Below the menu is a toolbar with various icons. A search bar contains '<global>'. On the left, there's a 'Management' panel with tabs for Projects, Files, and FSymbols, showing the workspace and project structure. The main editor window displays the code for main.c, which includes includes for GL and freeglut.h, defines the main function, and returns 0. A code completion dropdown is open at the bottom of the code area, listing several GL header files: freeglut.h, freeglut\_ext.h, freeglut\_std.h, gl.h, glaux.h, glcorearb.h, glext.h, glu.h, glut.h, glxext.h, and wglext.h. The 'glu.h' entry is currently highlighted.

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global>

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

\*main.c X

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C, V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10    return 0;
11 }
12
```

main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Management

Projects Files FSymbols

Workspace NANO2023 Sources main.c

main.c

```
#include <GL/glu.h>
#include <GL/glut.h>

int main(int C, char *V[])
{
    glutInit(&C, V);

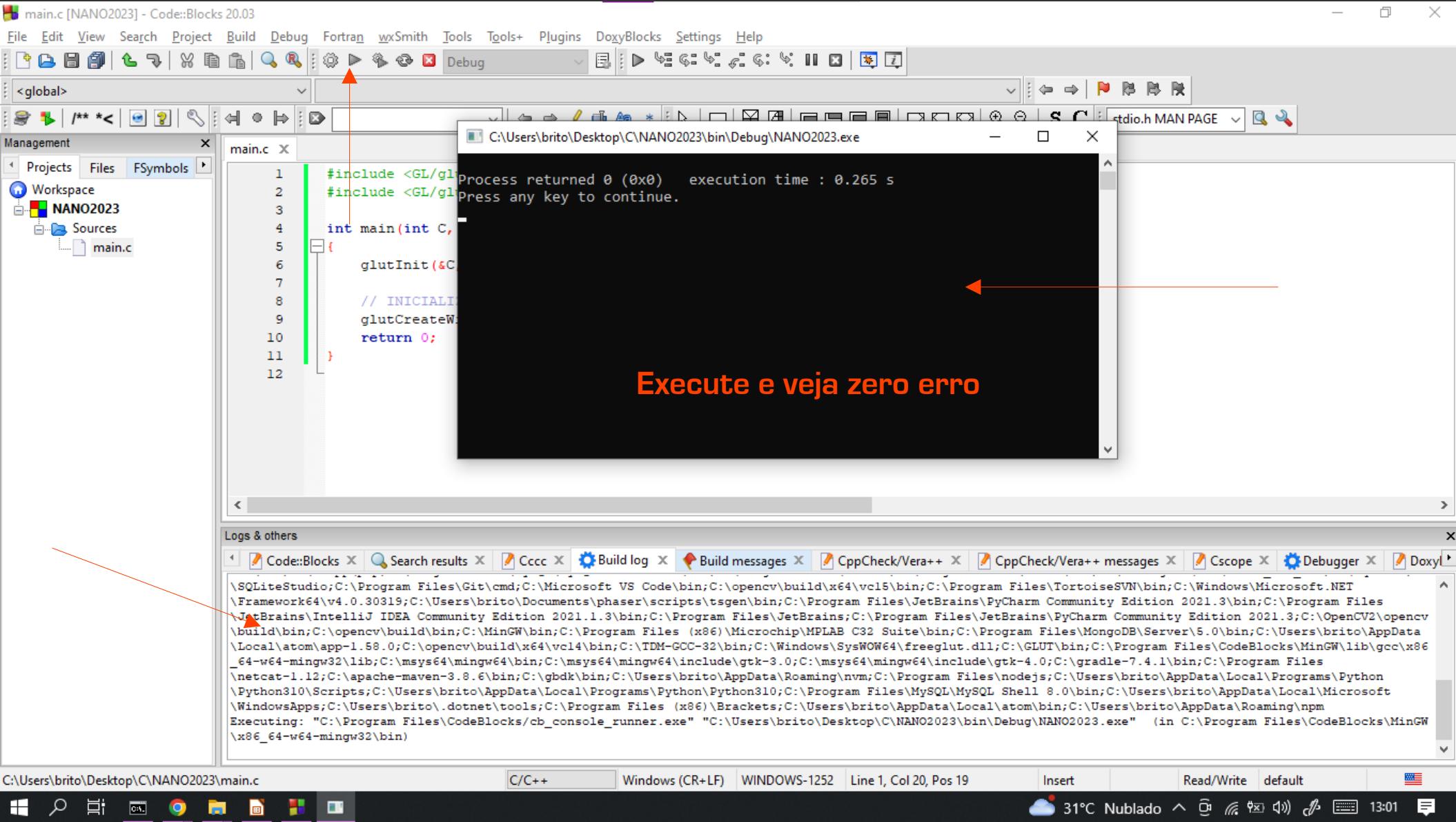
    // INICIALIZANDO
    glutCreateWindow("BASIC WINDOW OPENGL");
    return 0;
}
```

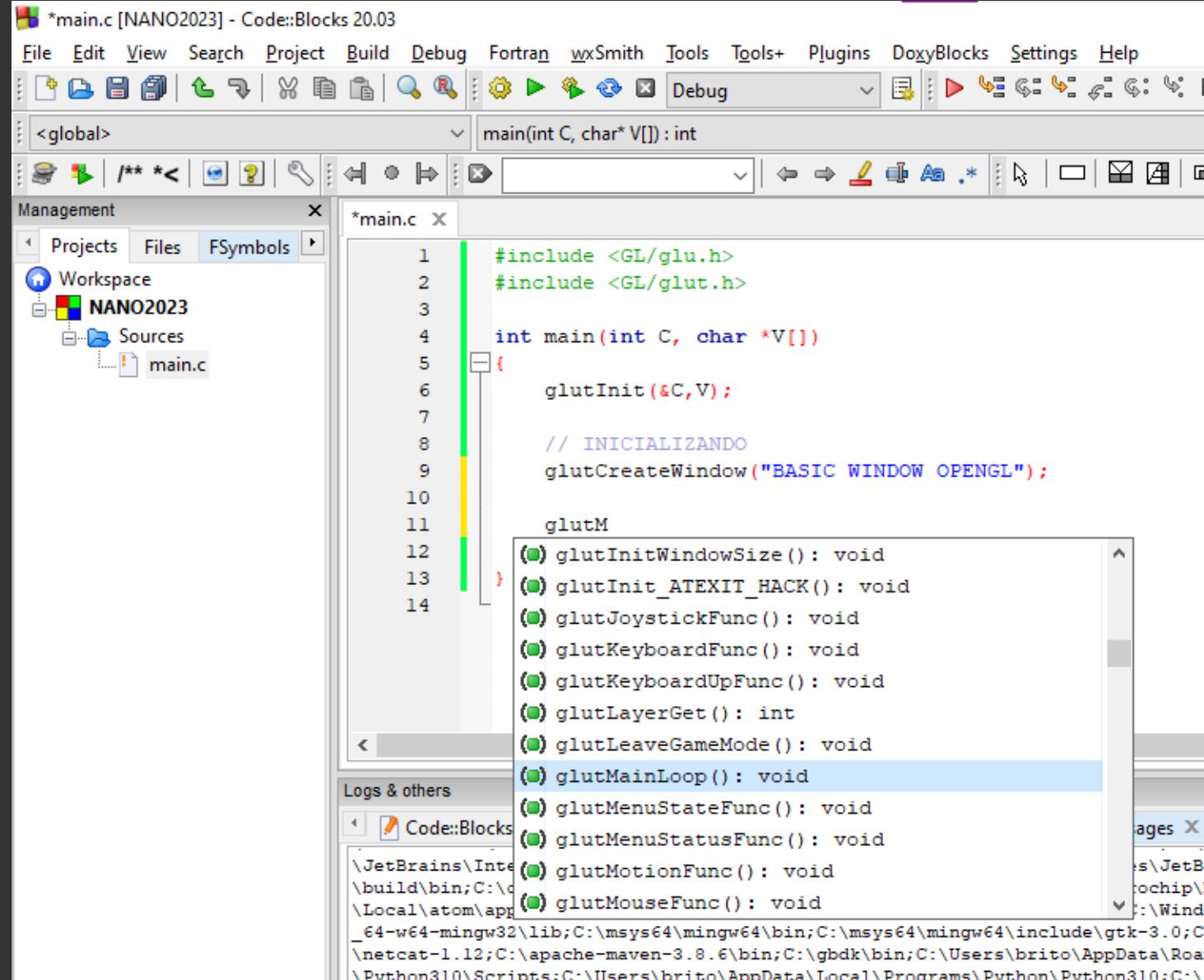
Logs & others

Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger Doxygen

```
----- Build: Debug in NANO2023 (compiler: GNU GCC Compiler) -----
gcc.exe -Wall -g -I"C:\Program Files\CodeBlocks\MinGW\x86_64-mingw32\include" -c C:\Users\brito\Desktop\C\NANO2023\main.c -o obj\Debug\main.o
gcc.exe -L"C:\Program Files\CodeBlocks\MinGW\x86_64-mingw32\lib" -o bin\Debug\NANO2023.exe obj\Debug\main.o -lfreeglut -lopengl32 -lglu32 -lwinmm -lgdi32
Output file is bin\Debug\NANO2023.exe with size 74.21 KB
Process terminated with status 0 (0 minute(s), 2 second(s))
0 error(s), 0 warning(s) (0 minute(s), 2 second(s))
```

C:\Users\brito\Desktop\C\NANO2023\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 1, Col 20, Pos 19 Insert Read/Write default 31°C Nublado 13:00





The screenshot shows the Code::Blocks 20.03 IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Build. The status bar at the bottom shows "main(int C, char\* V[]) : int". The left sidebar is titled "Management" and contains tabs for Projects, Files, and FSymbols. Under the Workspace tab, there is a project named "NANO2023" which contains a source folder "Sources" with a file named "main.c". The main code editor window is titled "\*main.c" and displays the following C code:

```
1 #include <GL/glut.h>
2
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C, V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10
11     glutMainLoop();
12
13 }
14
```

Função que não retorna nada e recebe nada

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Run wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global> main(int C, char\* V[]) : int

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

```
1 #include <GL/glut.h>
2 #include <GL/glu.h>
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C,V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10
11     glutMainLoop();
12
13 }
14
```

```
C:\Users\brito\Desktop\C\NANO2023\bin\Debug\NANO2023.exe
freeglut (C:\Users\brito\Desktop\C\NANO2023\bin\Debug\NANO2023.exe): ERROR: No display callback registered for window 1 ^

Process returned 1 (0x1) execution time : 0.283 s
Press any key to continue.
```

**Vamos resolver  
REGISTRANDO UMA CALLBACK**

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global> main(int C, char\* V[]) : int

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C, V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10
11     glutDis
12    	glutDisplayFunc(): void
13 }
14
15
```

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X

The screenshot shows the Code::Blocks IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. The status bar at the bottom shows "main(int C, char\* V[]) : int". The left sidebar has a "Management" tab with "Projects", "Files", and "FSymbols" options, showing a "Workspace" and a "NANO2023" project with a "Sources" folder containing "main.c". The main editor window titled "\*main.c" contains the following C code:

```
1 #include <GL/glut.h>
2
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C,V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10
11    glutDisplayFunc();
12    glutMainLoop(); void glutDisplayFunc(void(* callback)(void))
13    return 0;
14
15 }
```

Annotations in the code editor include:

- A green arrow points from the word "callback" in the line "void glutDisplayFunc(void(\* callback)(void))" to the word "callback" in the line "glutDisplayFunc();".
- A green arrow points from the word "callback" in the line "void glutDisplayFunc(void(\* callback)(void))" to the word "callback" in the line "void glutDisplayFunc(void(\* callback)(void))".

Retorna nada e recebe uma função de callback que é um ponteiro void  
Ponteiros voids assumem qualquer tipo primitivo  
Note que toda essa função é apenas um parametro

The screenshot shows the Code::Blocks IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. The status bar at the bottom shows "Debug". The left sidebar has a "Management" tab with "Projects", "Files", and "FSymbols" tabs. Under "Projects", there is a "Workspace" section with "NANO2023" selected, which contains a "Sources" folder with "main.c". The main editor window displays the following C code:

```
1 #include <GL/glut.h>
2
3
4 int main(int C, char *V[])
5 {
6     glutInit(&C, V);
7
8     // INICIALIZANDO
9     glutCreateWindow("BASIC WINDOW OPENGL");
10
11    glutDisplayFunc(Draw);
12    glutMainLoop();
13 }
14
15
```

A green vertical line highlights the opening brace of the main function, and a green arrow points upwards from the closing brace of the main function towards the word "Draw".

Como ela recebe uma função vamos escrever uma função pra ele  
nesse caso a Draw(){}  
}

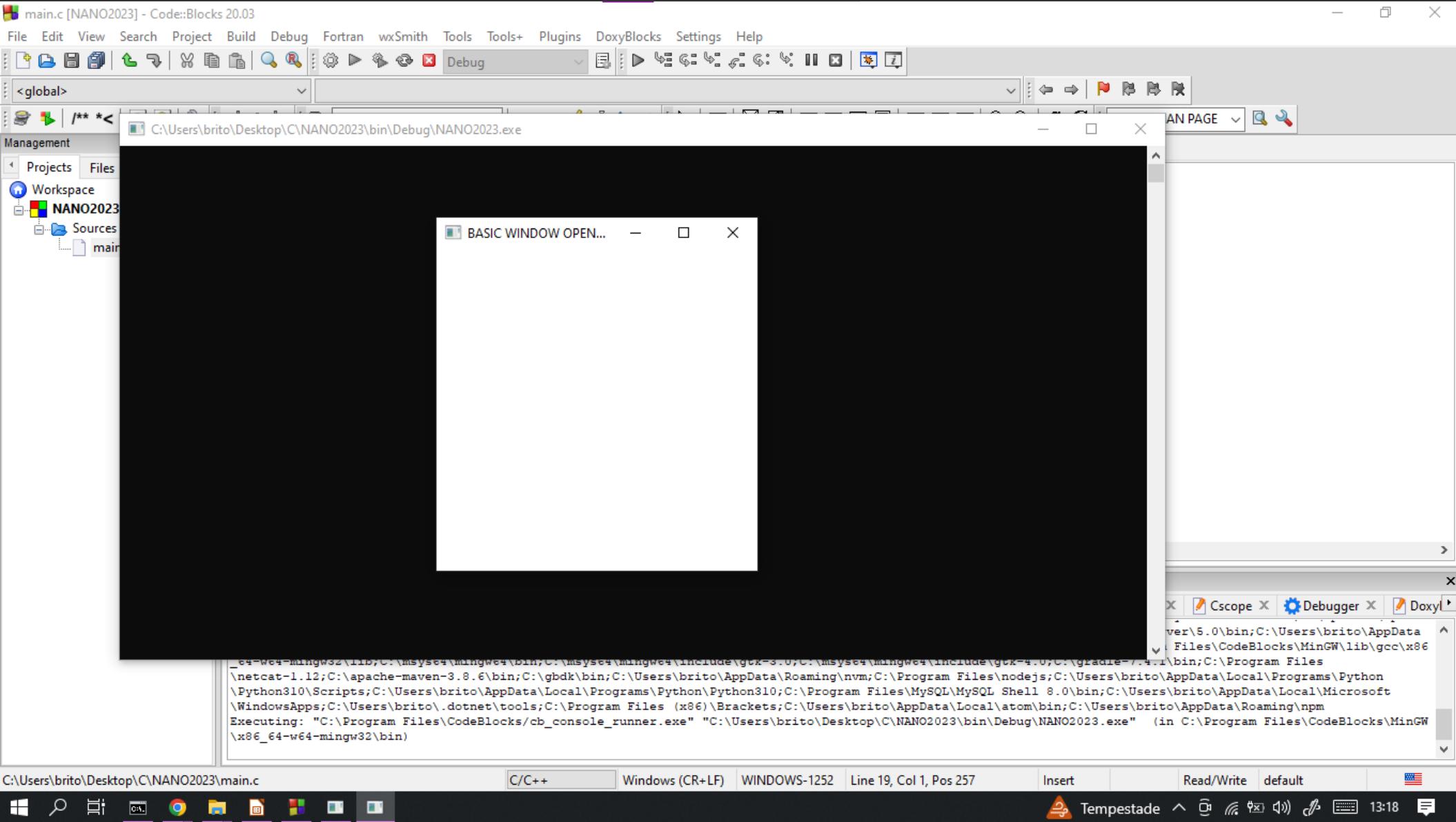
The screenshot shows the Code::Blocks IDE interface. The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar has various icons for file operations like Open, Save, Find, and Run. A green arrow points to the 'Debug' button in the toolbar. The left sidebar shows the 'Management' panel with 'Projects', 'Files', and 'FSymbols' tabs, and a 'Workspace' section containing 'NANO2023' with a 'Sources' folder containing 'main.c'. The main code editor window displays the following C code:

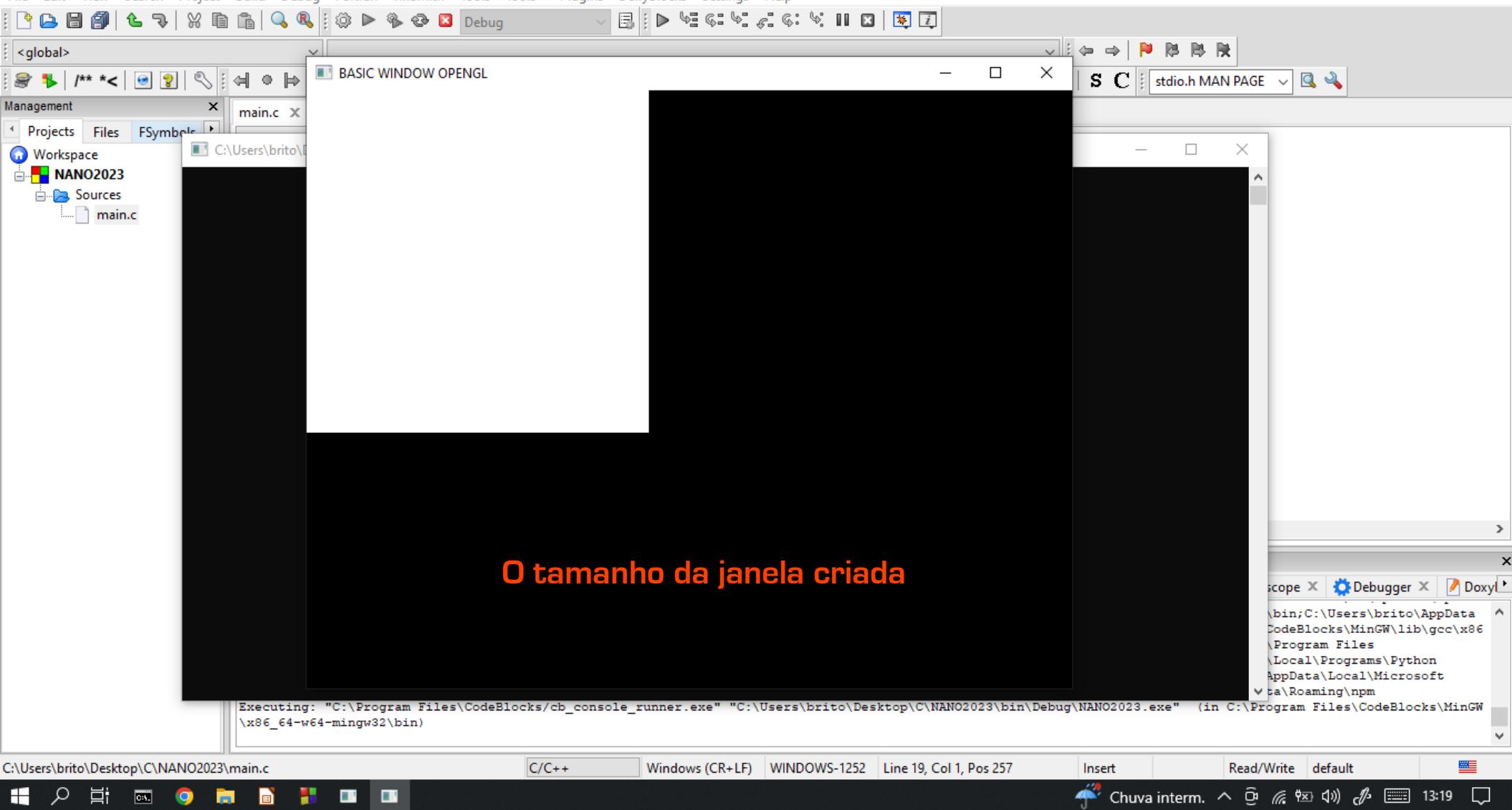
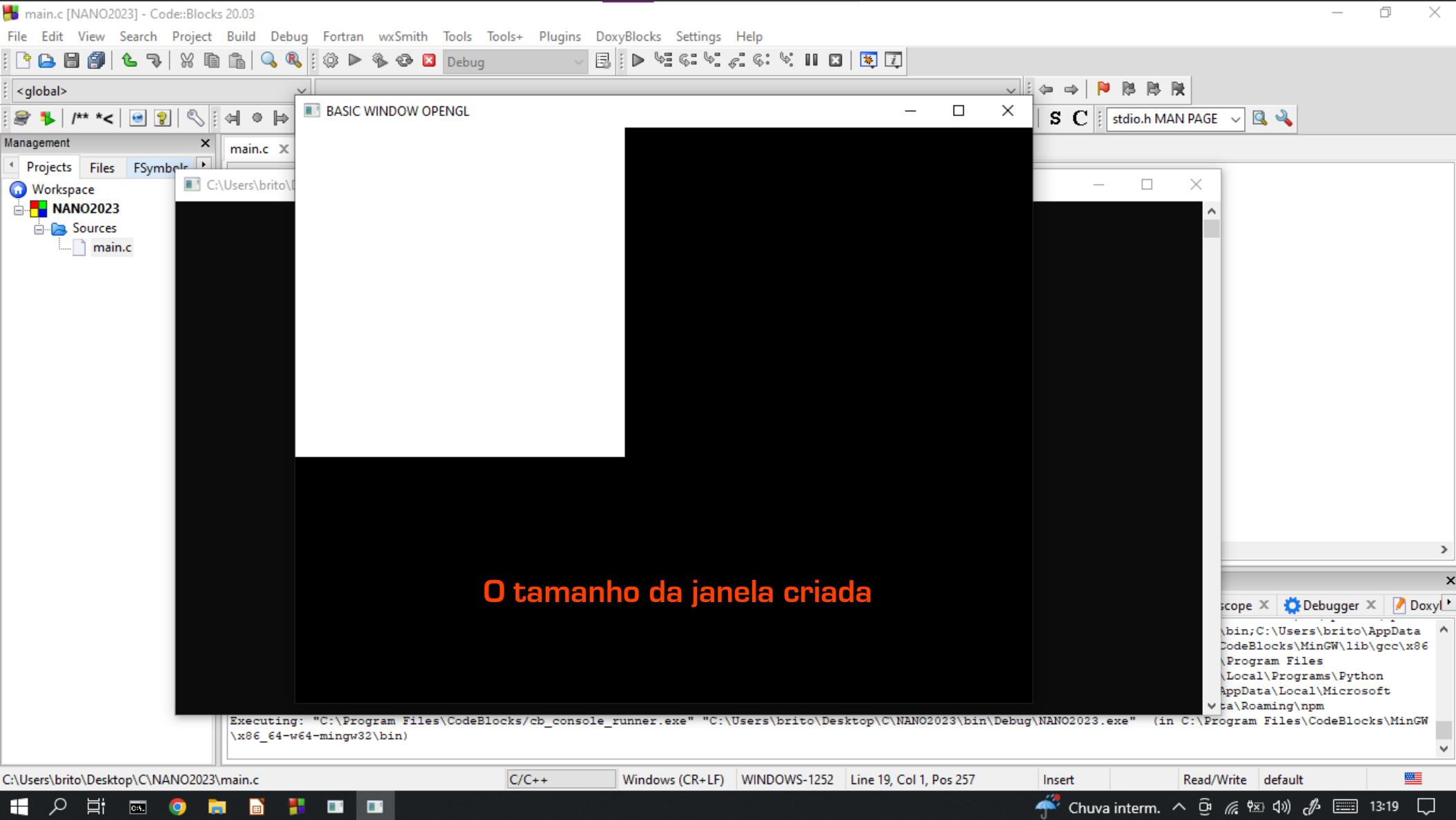
```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw()
5 {
6 }
7
8 int main(int C, char *V[])
9 {
10     glutInit(&C, V);
11
12     // INICIALIZANDO
13     glutCreateWindow("BASIC WINDOW OPENGL");
14
15     glutDisplayFunc(Draw);
16     glutMainLoop();
17     return 0;
18 }
```

Annotations with green arrows highlight the 'Draw' function definition (lines 4-7), the main function declaration (line 8), and the main function body (lines 9-18).

Por fim compile e execute

Escrevemos a função nos  
moldes que deveríamos  
escrever não recebendo nada  
e não retornando nada





\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help



<global> main(int C, char\* V[]) : int



Management

Projects Files FSymbols

Workspace  
NANO2023  
Sources  
main.c

\*main.c

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw()
5 {
6 }
7
8 int main(int C, char *V[])
9 {
10     glutInit(&C, V);
11     glutIni
12     # glutInit
13     (●) glutInit(): void
14     (●) glutInitDisplayMode(): void
15     (●) glutInitDisplayString(): void
16     (●) glutInitWindowPosition(): void
17     (●) glutInitWindowSize(): void
18     (●) glutInit_ATEXIT_HACK(): void
19 }
```

The screenshot shows the Code::Blocks 20.03 IDE interface. The title bar reads "\*main.c [NANO2023] - Code::Blocks 20.03". The menu bar includes File, Edit, View, Search, Project, Build, Debug, Fortran, wxSmith, Tools, Tools+, Plugins, DoxyBlocks, Settings, and Help. The toolbar contains various icons for file operations like Open, Save, and Build. The status bar at the bottom shows "main(int C, char\* V[]) : int". The left sidebar has a "Management" tab with "Projects", "Files", and "FSymbols" options. Under "Workspace", there is a "NANO2023" project with a "Sources" folder containing "main.c". The main code editor window displays the following C code:

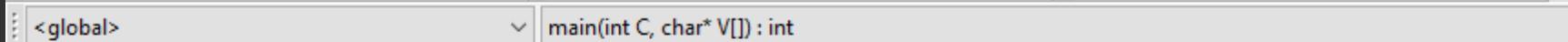
```
#include <GL/glu.h>
#include <GL/glut.h>

void Draw()

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowSize();
    // INICIALIZANDO void glutInitWindowSize(int width, int height)
    glutCreateWindow("BASIC WINDOW OPENGL");

    glutDisplayFunc(Draw);
    glutMainLoop();
    return 0;
}
```

Não retorna nada e recebe dois numeros inteiros altura e largura da janela



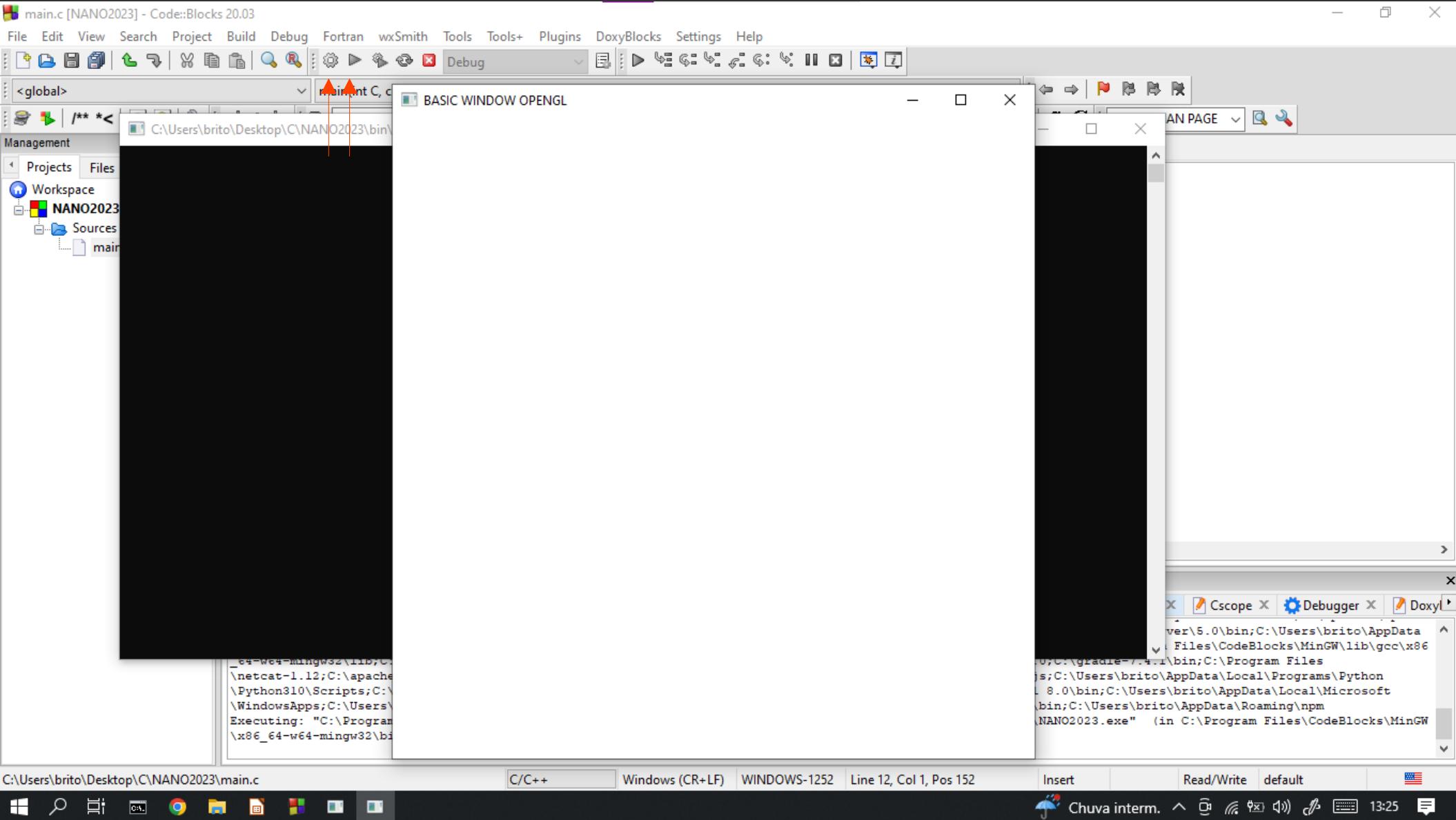
## Management

## Projects Files FSymbols

Workspace  
NANO2023  
Sources  
main.c

## \*main.c

```
1  #include <GL/glut.h>
2
3
4  void Draw()
5  {
6
7  }
8  int main(int C, char *V[])
9  {
10    glutInit(&C,V);
11    glutInitWindowSize(600,600); ←
12    |
13    // INICIALIZANDO
14    glutCreateWindow("BASIC WINDOW OPENGL");
15
16    glutDisplayFunc(Draw);
17    glutMainLoop();
18
19 }
20
```



\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global> main(int C, char\* V[]) : int

Management X

Projects Files FSymbols

Workspace NANO2023 Sources main.c

\*main.c X

```
1 #include <GL/glut.h>
2
3
4 void Draw()
5 {
6
7 }
8 int main(int C, char *V[])
9 {
10     glutInit(&C,V);
11     glutI[glutIconifyWindow(): void
12     (glutIdleFunc(): void
13     (glutIgnoreKeyRepeat(): void
14     # glutInit
15     (glutInit(): void
16     (glutInitDisplayMode(): void
17     (glutInitDisplayString(): void
18     (glutInitWindowSize(): void
19     (glutInitWindowPosition(): void
20     (glutInit_ATEXIT_HACK(): void
21 }
```

Logs & others

Code::Blocks X Search results X Ccc X Build Log X Build me

64-w64-mingw32\lib;C:\msys64\mingw64\bin;C:\msys64\mingw64\include\g

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global>

main(int C, char\* V[]); int

Management

Projects Files FSymbols

Workspace

NANO2023

Sources main.c

\*main.c X

```
1 #include <GL/glut.h>
2
3
4 void Draw()
5 {
6
7 }
8 int main(int C, char *V[])
9 {
10     glutInit(&C, V);
11     glutInitWindowPosition(0)
12     glutInitWindowSize(600) void glutInitWindowPosition(int x, int y)
13
14     // INICIALIZANDO
15     glutCreateWindow("BASIC WINDOW OPENGL");
16
17     glutDisplayFunc(Draw);
18     glutMainLoop();
19     return 0;
20 }
```

Logs & others

Daqui pra frente não ficarei mostrando pois já sabemos como ler essas informações e como passa-las

\*main.c [NANO2023] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global>

main(int C, char\* V[]) : int

Management

Projects Files FSymbols

Workspace NANO2023 Sources main.c

#include <GL/glu.h>  
#include <GL/glut.h>  
  
void Draw()  
{  
}  
  
int main(int C, char \*V[])  
{  
 glutInit(&C,V);  
 glutInitWindowPosition(100,150);  
 glutInitWindowSize(600,600);  
  
 // INICIALIZANDO  
 glutCreateWindow("BASIC WINDOW OPENGL");  
  
 glutDisplayFunc(Draw);  
 glutMainLoop();  
 return 0;  
}

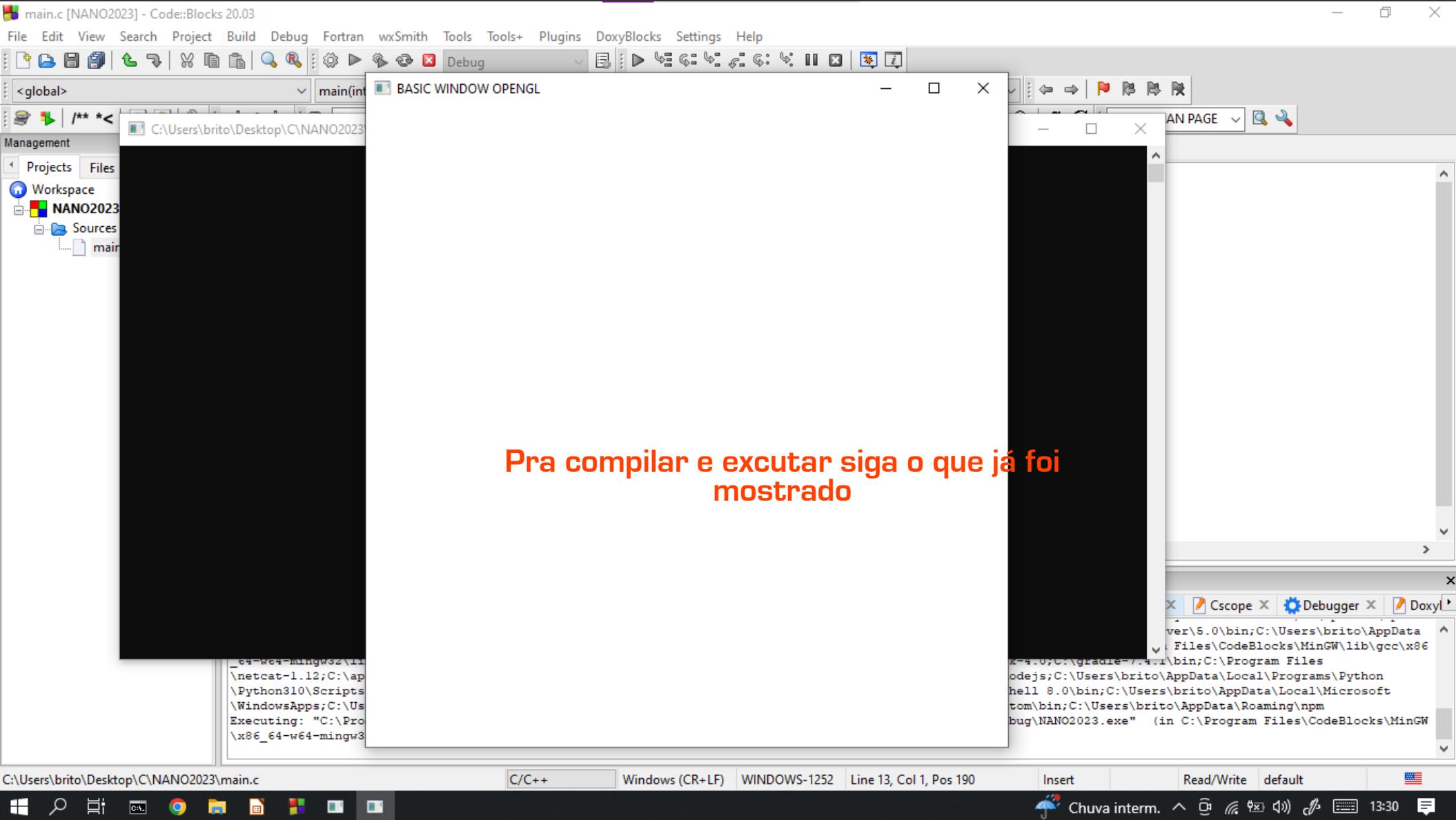
Logs & others

Code:Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy X

\_64-w64-mingw32\lib;C:\msys64\mingw64\bin;C:\msys64\mingw64\include\gtk-3.0;C:\msys64\mingw64\include\gtk-4.0;C:\gradle-7.4.1\bin;C:\Program Files\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm  
Executing: "C:\Program Files\CodeBlocks\cb\_console\_runner.exe" "C:\Users\brito\Desktop\C\NANO2023\bin\Debug\NANO2023.exe" (in C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw32\bin)  
Process terminated with status -1073741510 (0 minute(s), 3 second(s))

C:\Users\brito\Desktop\C\NANO2023\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 13, Col 1, Pos 190 Insert Modified Read/Write default

Chuva interm. ^ ☰ 13:30



**DEPOIS DE SAIR E VOLTAR ELE DA UM ERRO QUANDO FICA COM O LAYOUT EM PRETO  
DARK**  
**É PRECISO RECOMPILAR TUDO DO ZERO**  
**Apagar tudo e começar do zero mesmo**

main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
#include <GL/glu.h>
#include <GL/glut.h>

void Draw()

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowPosition(250,50);
    glutInitWindowSize(600,600);

    // INICIALIZANDO
    glutCreateWindow("BASIC WINDOW OPENGL");

    glutDisplayFunc(Draw);
    glutMainLoop();
    return 0;
}
```

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

```
\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm
Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
Process terminated with status -1073741510 (0 minute(s), 2 second(s))
```

C:\Users\brito\Desktop\C\NANO2023-2\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 1, Col 1, Pos 0 Insert Read/Write default Chuva chegando 13:15

3-2  
s  
n.c

\*main.c X

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw()
5 {
6
7 }
8 int main(int C, char *V[])
9 {
10     glutInit(&C, V);
11     glutInitWindowPosition(250, 50);
12     glutInitWindowSize(600, 600);
13     glutIni
14     # glutInit
15     (# glutInit()): void
16     (# glutInitDisplayMode()): void
17     (# glutInitDisplayString()): void
18     (# glutInitWindowPosition()): void
19     (# glutInitWindowSize()): void
20     (# glutInit_ATEXIT_HACK()): void
21 }
```

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera-

```
\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\U
\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bi
\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\
```

The screenshot shows a C IDE interface with the following components:

- Toolbar:** Includes icons for file operations (New, Open, Save, Print), project management (Projects, Files, FSymbols), and other development tools.
- Management View:** A tree view showing the project structure:
  - Projects
  - Files
  - FSymbols
  - Workspace
    - NANO2023-2
      - Sources
        - main.cA green box highlights the "Sources" folder, and a green arrow points from the "main.c" file icon to the code editor.
- Code Editor:** The main window displays the content of the "main.c" file:

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw()
5 {
6
7 }
8 int main(int C, char *V[])
9 {
10     glutInit(&C, V);
11     glutInitWindowPosition(250, 50);
12     glutInitWindowSize(600, 600);
13     glutInitDisplayMode| // INICIALIZANDO
14     glutCreateWindow("BASIC WINDOW OPENGL");
15
16
17     glutDisplayFunc(Draw);
18     glutMainLoop();
19     return 0;
```
- Annotations:**
  - A large green text overlay "olhe e mantenha isso!" is positioned in the lower-left area of the code editor.
  - A green text annotation "Note o simbolo de interrogação" is located at the bottom left of the screen.

# OLHE TODA ESSA PARTE<sup>+</sup>

The screenshot shows the Code::Blocks IDE interface. The main window displays a C source file named `main.c` with the following code:

```
#include <GL/glu.h>
#include <GL/glut.h>

void Draw()
{
}

int main(int C, char *V[])
```

The `Draw()` function is highlighted with a green selection bar. A large green arrow points from the text above the screenshot down towards the `Build log` tab in the bottom toolbar.

The bottom toolbar contains several tabs: `Code::Blocks`, `Search results`, `Build log` (which is currently selected), `Build messages`, `CppCheck/Vera++`, `CppCheck/Vera++ messages`, `Cscope`, `Debugger`, and `Doxygen`. The `Build log` tab displays the following output:

```
----- Run: Debug in NANO2023-2 (compiler: GNU GCC Compiler) -----
Checking for existence: C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\lib;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program
Files\Java\jdk-17\bin;C:\Program Files\Microsoft\jdk-11.0.12.7-hotspot\bin;C:\Users\brito\AppData\Local\Programs\Python\Python39\Scripts;C:\Users\brito\AppData
\Local\Programs\Python\Python39;C:\Program Files (x86)\VMware\VMware Player\bin;C:\Program Files\Common Files\Oracle\Java\javapath;C:\Program Files (x86)\Common
Files\Oracle\Java\javapath;C:\Windows\System32;C:\Windows;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:
\Program Files\Microsoft SQL Server\130\Tools\Binn;C:\Program Files\Java\javafx-sdk-16\bin;C:\Program Files\Java\jdk-11.0.11\bin;C:\Program Files\Java\jre1.8.0_
291\bin;C:\xampp\php;C:\Program Files\MySQL\MySQL Server 8.0\bin;C:\Program Files\dotnet;C:\Program Files\CMake\bin;C:\wxwidgets\lib\vc142_x64_dll;C:\sqlite3;C:
\SQLiteStudio;C:\Program Files\Git\cmd;C:\Microsoft VS Code\bin;C:\opencv\build\x64\vc15\bin;C:\Program Files\TortoiseSVN\bin;C:\Windows\Microsoft.NET
\Framework64\v4.0.30319;C:\Users\brito\Documents\phaser\scripts\tsgen\bin;C:\Program Files\JetBrains\PyCharm Community Edition 2021.3\bin;C:\Program Files
\JetBrains\IntelliJ IDEA Community Edition 2021.1.3\bin;C:\Program Files\JetBrains;C:\Program Files\JetBrains\PyCharm Community Edition 2021.3;C:\OpenCV2\opencv
\build\bin;C:\opencv\build\bin;C:\MinGW\bin;C:\Program Files (x86)\Microchip\MLAB C32 Suite\bin;C:\Program Files\MongoDB\Server\5.0\bin;C:\Users\brito\AppData
\Local\atom\app-1.58.0;C:\opencv\build\x64\vc14\bin;C:\TDM-GCC-32\bin;C:\Windows\SysWOW64\freeglut.dll;C:\GLUT\bin;C:\Program Files\CodeBlocks\MinGW\lib\gcc\x86
_64-w64-mingw32\lib;C:\msys64\mingw64\bin;C:\msys64\mingw64\include\gtk-3.0;C:\msys64\mingw64\include\gtk-4.0;C:\gradle-7.4.1\bin;C:\Program Files
\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python
\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft
\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm
Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks
\MinGW\x86_64-w64-mingw32\bin)
Process terminated with status -1073741510 (0 minute(s), 2 second(s))
```

The status bar at the bottom shows the file name `AN02023-2/main.c`, the editor mode `C/C++`, the encoding `Windows (CR+LF)`, the page number `WINDOWS-1252`, the current position `Line 13, Col 49, Pos 237`, and the file status `Insert`, `Modified`, `Read/Write`, and `default`.

The screenshot shows a software interface with a toolbar at the top, a project management bar, and a file browser on the left. The main area is a code editor with a syntax-highlighted C program.

**Project Management:**

- Projects
- Files
- FSymbols

**Workspace:**

- NANO2023-2
  - Sources
    - main.c

**Code Editor:**

```
#include <GL/glut.h>
#include <GL/glu.h>

void Draw()

int main(int C, char *V[])
{
    glutInit(&C, V);
    glutInitWindowPosition(250, 50);
    glutInitWindowSize(600, 600);
    glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); ←
        // INICIALIZANDO
    glutCreateWindow("BASIC WINDOW OPENGL");

    glutDisplayFunc(Draw);
    glutMainLoop();
    return 0;
}

// https://www.youtube.com/watch?v=wG_VaSr6a6c&t=1254s
// parada 20:55
```

A green vertical line highlights the code from line 10 to line 20. A green arrow points to the line `glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE);`. A green plus sign is located at the end of line 20.

main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global> main(int C, char\* V[]) : int

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

#include <GL/glut.h>  
#include <GL/glu.h>  
  
void Draw()  
{  
}  
  
int main(int C, char \*V[])  
{  
 glutInit(&C,V);  
 glutInitWindowPosition(250,50);  
 glutInitWindowSize(600,600);  
 glutInitDisplayMode(GLUT\_RGB | GLUT\_SINGLE);  
 // INICIALIZANDO  
 glutCreateWindow("BASIC WINDOW OPENGL");  
  
 glutDisplayFunc(Draw);  
}

nenhum erro ao dar build|

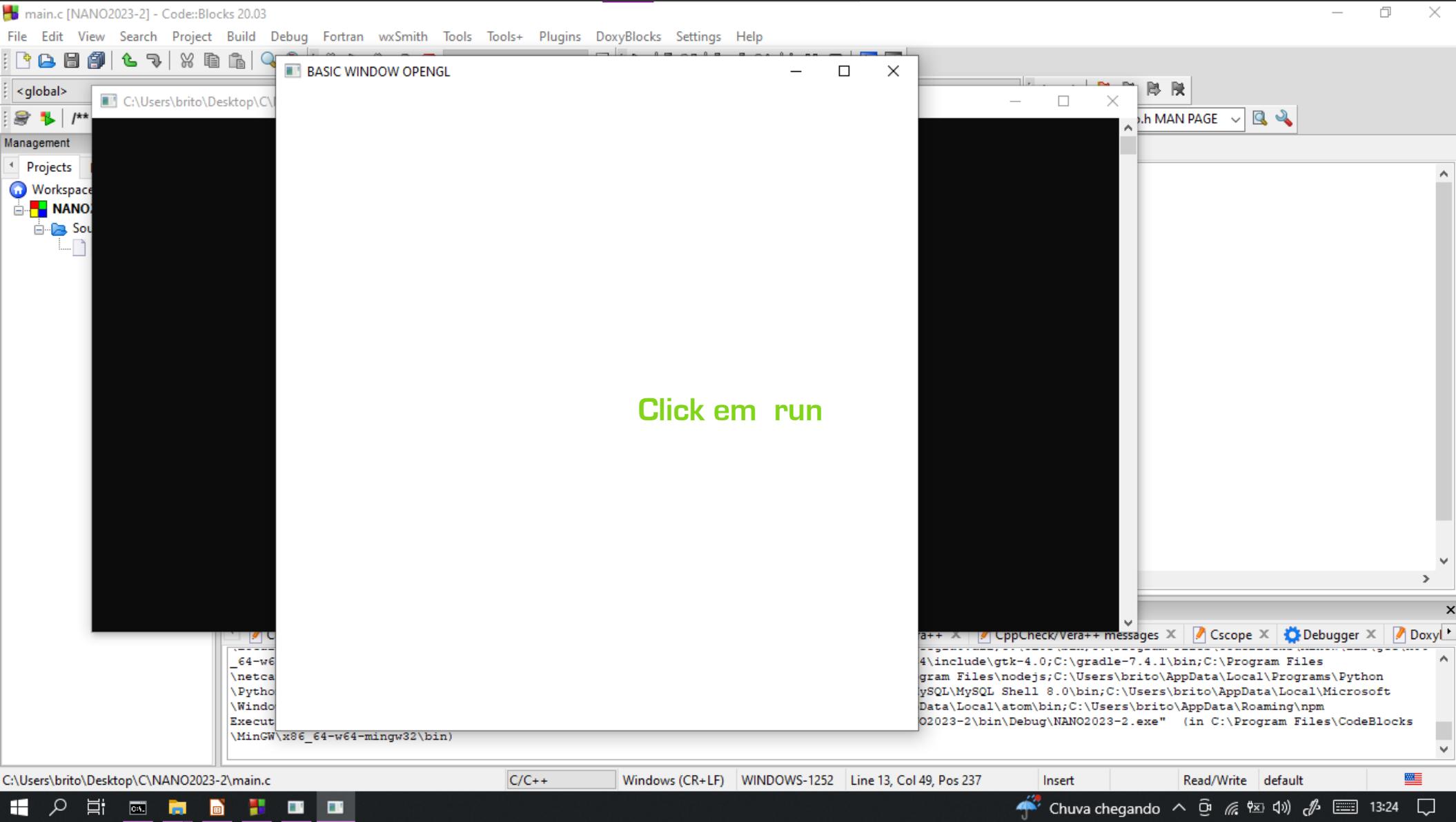
Logs & others

Code::Blocks X Search results X Cccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy

----- Build: Debug in NANO2023-2 (compiler: GNU GCC Compiler) -----  
gcc.exe -Wall -g -I"C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw32\include" -c C:\Users\brito\Desktop\C\NANO2023-2\main.c -o obj\Debug\main.o  
gcc.exe -L"C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw32\lib" -o bin\Debug\NANO2023-2.exe obj\Debug\main.o -lfreeglut -lopengl32 -lglu32 -lwinmm -lgdi32  
Output file is bin\Debug\NANO2023-2.exe with size 75.55 KB  
Process terminated with status 0 (0 minute(s), 1 second(s))  
0 error(s), 0 warning(s) (0 minute(s), 1 second(s))

C:\Users\brito\Desktop\C\NANO2023-2\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 13, Col 49, Pos 237 Insert Read/Write default

Chuva chegando



\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global> main(int C, char\* V[]) : int

Management X

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

main.c X

```
1 #include <GL/glut.h>
2
3
4 void Draw() // FUNÇÃO CR
5 {
6
7 }
8 int main(int C, char *V[])
9 {
10     glutInit(&C,V);
11     glutInitWindowPosition(250,50); // POSIÇÃO D
12     glutInitWindowSize(600,600); // TAMANHO E
13     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA
14     // INICIALIZANDO
15     glutCreateWindow("BASIC WINDOW OPENGL"); // TÍTULO DA
16
17     glc
18     (●) glCallList(): void
19     (●) glCallLists(): void
20     (●) GLclampd
21     (●) GLclampf
22 }
```

Logs & others

Code:Blocks

\Python310\Scr... \WindowsApps\... Executing: "C:\... \MinGW\x86\_64-v... Process termina

(●) glClearColor(): void ←

(●) glClearDepth(): void

(●) glClearIndex(): void

(●) glClearStencil(): void

(●) glClipPlane(): void

(●) glColor3b(): void

Build messages X

ams\Python\Python310;C:\Program Files (x86)\Brackets;C:\Users\... inner.exe" "C:\Users\brito\Desktop\... , 10 second(s))

```
0 int main(int c, char **v[])
1 {
2     glutInit(&C,V);
3     glutInitWindowPosition(250,50);           // POSIÇÃO DA JANELA
4     glutInitWindowSize(600,600);             // TAMANHO E LARGURA DA JANELA
5     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
6     // INICIALIZANDO
7     glutCreateWindow("BASIC WINDOW OPENGL");   // TITULO DA JANELA
8
9     glClearColor()
10    glutDisplayFunc(glClearColor(GLclampf red, GLclampf green, GLclampf blue, GLclampf alpha));
11    glutMainLoop();                          // FUNÇÃO OBRIGATÓRIA
12    return 0;
13
14 }
```

Recebe 3 parametros para red green e blue e um ultimo para alpha

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global> main(int C, char\* V[]) : int

Management X

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
*main.c X
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw() // FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc
5 {
6 }
7
8 int main(int C, char *V[])
9 {
10     glutInit(&C,V); // POSIÇÃO DA JANELA
11     glutInitWindowPosition(250,50); // TAMANHO E LARGURA DA JANELA
12     glutInitWindowSize(600,600);
13     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
14     // INICIALIZANDO
15     glutCreateWindow("BASIC WINDOW OPENGL"); // TITULO DA JANELA
16
17     glClearColor(0,0,0,1); ←
18     glutDisplayFunc(Draw);
19     glutMainLoop(); // FUNÇÃO OBRIGATORIA
20     return 0;
21 }
22
```

Logs & others

```
glutCreateWindow ("BASIC WINDOW OPENGL");           // TITULO DA JANELA  
  
glClearColor(0,0,0,1);                            // FUNÇÃO PARAS AS CORES DA JANELA  
glColor3f()  
glutDisp[void glColor3f(GLfloat red, GLfloat green, GLfloat blue)]  
glutMainLoop();          // FUNÇÃO OBRIGATÓRIA  
return 0;  
}
```

\*main.c [NANO2023-2] - Code::Blocks 20.03

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Debug main(int C, char\* V[]) : int stdio.h MAN PAGE

Management X \*main.c X

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
#include <GL/glut.h>
#include <GL/glu.h>

void Draw() // FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowPosition(250,50); // POSIÇÃO DA JANELA
    glutInitWindowSize(600,600); // TAMANHO E LARGURA DA JANELA
    glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
    // INICIALIZANDO
    glutCreateWindow("BASIC WINDOW OPENGL"); // TITULO DA JANELA

    glClearColor(0,0,0,1); // FUNÇÃO PARAS AS CORES DA JANELA
    glColor3f(1,0,0); // RECEBE VALORES FLOAT PARA DAR COR A JANELA
    glutDisplayFunc(Draw);
    glutMainLoop(); // FUNÇÃO OBRIGATORIA
    return 0;
}
```

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy

```
\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm
Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks)
```



## Management

Projects Files FSymbols >

Workspace

NANO2023-2

Sources

main.c

\*main.c X

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void Draw() // FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);
5 {
6 }
7
8 int main(int C, char *V[])
9 {
10     glutInit(&C,V); // POSIÇÃO DA JANELA
11     glutInitWindowPosition(250,50); // TAMANHO E LARGURA DA JANELA
12     glutInitWindowSize(600,600);
13     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
14     // INICIALIZANDO
15     glutCreateWindow("BASIC WINDOW OPENGL"); // TITULO DA JANELA
16
17     MyInit(); // CRIANDO NOSSA FUNÇÃO
18     glClearColor(0,0,0,1); // FUNÇÃO PARA AS CORES DA JANELA
19     glColor3f(1,0,0); // RECEBE VALORES FLOAT PARA DAR COR A JANELA
20     glutDisplayFunc(Draw); // FUNÇÃO OBRIGATORIA
21     glutMainLoop(); // FUNÇÃO OBRIGATORIA
22     return 0;
```

## Logs &amp; others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X

```
\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm
Executing: "C:\Program Files\CodeBlocks\cb_console_runner.exe" "C:\Users\brito\Desktop\CV NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
Process terminated with status -1073741510 (0 minute(s), 10 second(s))
```

```
15     glutCreateWindow("BASIC WINDOW OPENGL");      // TITULO DA JANELA
16
17     MyInit();                                     // CRIANDO NOSSA FUNÇÃO
18     glClearColor(0,0,0,1);                        // FUNÇÃO PARAS AS CORES DA JANELA
19     glColor3f(1,0,0);                            // RECEBE VALORES FLOAT PARA DAR COR A JANELA
20     glutDisplayFunc(Draw);
21     glutMainLoop();                             // FUNÇÃO OBRIGATORIA
22     return 0;
23
24 }
```

**RECORDAMOS ESSAS DUAS FUNÇÕES E COLAMOS DENTRO DA NOSSA FUNÇÃO**

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug

<global>

MyInit() : void

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

#include <GL/glu.h>  
#include <GL/glut.h>

void MyInit()  
{  
 glClearColor(0,0,0,1); // FUNÇÃO PARAS AS CORES DA JANELA  
 glColor3f(1,0,0); // RECEBE VALORES FLOAT PARA DAR COR A JANELA  
}  
void Draw()  
{  
}  
int main(int C, char \*V[]){  
 glutInit(&C,V); // POSIÇÃO DA JANELA  
 glutInitWindowPosition(250,50); // TAMANHO E LARGURA DA JANELA  
 glutInitWindowSize(600,600); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR  
 glutInitDisplayMode(GLUT\_RGB | GLUT\_SINGLE); // INICIALIZANDO  
 glutCreateWindow("BASIC WINDOW OPENGL"); // TITULO DA JANELA  
 MyInit(); // CRIANDO NOSSA FUNÇÃO

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen

\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm  
Executing: "C:\Program Files\CodeBlocks\cb console runner.exe" "C:\Users\brito\Desktop\CNANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks)

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Debug Draw() : void

Management X \*main.c X

Projects Files FSymbols X

Workspace NANO2023-2 Sources main.c

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void MyInit()
5 {
6     glClearColor(0,0,0,1); // FUNÇÃO PARA AS CORES DA JANELA
7     glColor3f(1,0,0); // RECEBE VALORES FLOAT PARA DAR COR A JANELA
8 }
9
10 void Draw()
11 {
12     glClear(GL_COLOR_BUFFER_BIT); // FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);
13 }
14
15 int main(int C, char *V[])
16 {
17     glutInit(&C,V); // POSIÇÃO DA JANELA
18     glutInitWindowSize(600,600); // TAMANHO E LARGURA DA JANELA
19     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
20     // INICIALIZANDO
21     glutCreateWindow("BASIC WINDOW OPENGL"); // TITULO DA JANELA
22     MyInit(); // CRIANDO NOSSA FUNÇÃO
23     glutDisplayFunc(Draw);
24     glutMainLoop(); // FUNÇÃO OBRIGATÓRIA
25     return 0;
26 }
```

Logs & others

Code::Blocks X Search results X Cccccc X Build log X Build messages X ConCheck/Vera++ X ConCheck/Vera++ messages X Csccccc X Debugger X Doxygen X

```
9     void Draw()
10    {
11        glClear(GL_COLOR_BUFFER_BIT);
12        glF
13    } (●) glFeedbackBuffer(): void
14    in (●) glFinish(): void
15    {
16        GLfloat
17        (●) glFlush(): void
18        (●) glFogf(): void
19        (●) glFogfv(): void
20        (●) glFogi(): void
21        (●) glFogiv(): void
22        (●) glFrontFace(): void
23        (●) glFrustum(): void
24    }
```

others

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Draw() : void

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
1 #include <GL/glu.h>
2 #include <GL/glut.h>
3
4 void MyInit()
5 {
6     glClearColor(0,0,0,1); // FUNÇÃO PARA AS CORES DA JANELA
7     glColor3f(1,0,0); // RECEBE VALORES FLOAT PARA DAR COR A JANELA
8 }
9 void Draw()
10 {
11     glClear(GL_COLOR_BUFFER_BIT); // LIMPANDO O BUFFER DA COR DE BACKGROUND
12     glFlush(); // ATUALIZA OS PIXELS
13 }
14 int main(int C, char *V[])
15 {
16     glutInit(&C,V); // POSIÇÃO DA JANELA
17     glutInitWindowPosition(250,50); // TAMANHO E LARGURA DA JANELA
18     glutInitWindowSize(600,600);
19     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE); // CORES DA JANELA A COR PADRÃO É BRANCO PODEMOS MUDAR
20     // INICIALIZANDO
21     glutCreateWindow("BASIC WINDOW OPENGL"); // TÍTULO DA JANELA
22     MyInit(); // CRIANDO NOSSA FUNÇÃO
23     glutDisplayFunc(Draw);
24     glutMainLoop(); // FUNÇÃO OBRIGATÓRIA
```

Logs & others

CodeBlocks Search results Ccc Build log Build messages CppCheck/Vera CppCheck/Vera + messages Cccons Debugger Dowl

```
9   void Draw()                                // FUNÇÃO CRIADA PARA ATENDER
10  {
11      glClear(GL_COLOR_BUFFER_BIT);           // LIMPPANDO O BUFFER DA COR
12
13      /** DESENHANDO UM RETANGULO **/
14      glVertex2d();
15      glFlush(); void glVertex2d(GLdouble x, GLdouble y) //ATUALIZA OS PIXELS
16  }
17  int main(int C, char *V[])
18  {
19      glutInit(&C,V);
20      glutInitWindowPosition(250,50);          // POSIÇÃO DA JANELA
21      glutCreateWindow("500x500");             // TITULO E TAMANHO DA TELA
```

```
10  {
11      glClear(GL_COLOR_BUFFER_BIT);           // LIMPPANDO O BUFFER DA COR DE BACKGROUND
12
13      /** DESENHANDO UM RETANGULO **/
14      glVertex2d(-0.5, 0.5);                // CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO
15      glVertex2d( 0.5, 0.5);
16      glVertex2d( 0.5,-0.5);
17      glVertex2d(-0.5,-0.5);
18      glFlush();                           // ATUALIZA OS PIXELS
19  }
20  int main(int C, char *V[])
21  {
22      glutInit(&C,V);
23      glutInitWindowPosition(250,50);        // POSIÇÃO DA JANELA
```

```
11     glClear(GL_COLOR_BUFFER_BIT);           // LIMPFANDO O BUFFER DA COR DE BACKGROUND
12
13     /** DESENHANDO UM RETANGULO **/
14     glBegin();                           // INICIA O RETANGULO
15     glVertex2d(-0.5, 0.5);               // CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO
16     glVertex2d( 0.5, 0.5);
17     glVertex2d( 0.5,-0.5);
18     glVertex2d(-0.5,-0.5);
19     glFlush();                          // ATUALIZA OS PIXELS
20 }
21 int main(int C, char *V[])
22 {
23     glutInit(&C,V);
24     glutInitWindowPosition(250,50);      // POSIÇÃO DA JANELA
```

```
12
13     /** DESENHANDO UM RETANGULO ***/
14     glBegin();                                // INICIA O RETANGULO
15     glVertex2d(-0.5, 0.5);                    // CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO
16     glVertex2d( 0.5, 0.5);
17     glVertex2d( 0.5,-0.5);
18     glVertex2d(-0.5,-0.5);
19     glEnd();                                  // TERMINA O RETANGULO
20     glFlush();                                // ATUALIZA OS PIXELS
21 }
22 int main(int C, char *V[])
23 {
```

```
/** DESENHANDO UM RETANGULO ***/
glBegin(GL_POLYGON);
glVertex3f(0.0f, 0.0f, 0.0f);
glVertex3f(1.0f, 0.0f, 0.0f);
glVertex3f(1.0f, 1.0f, 0.0f);
glVertex3f(0.0f, 1.0f, 0.0f);
glEnd();
glFlush();
}

int main(int argc, char *argv[])
{
    glutInit(&argc, argv);
    glutCreateWindow("Retângulo");
    glutDisplayFunc(display);
    glutMainLoop();
}
```

D:\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

<global> Debug

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

#include <GL/glut.h>

void MyInit()

{ glClearColor(0,0,0,1); glColor3f(1,0,0); }

void Draw()

{ glClear(GL\_COLOR\_BUFFER\_BIT);

/\* DESENHANDO UM RETANGULO \*/

glBegin(GL\_POINTS);  
glVertex2d(-0.5, 0.5);  
glVertex2d( 0.5, 0.5);  
glVertex2d( 0.5,-0.5);  
glVertex2d(-0.5,-0.5);  
glEnd();  
glFlush();

int main(int C, char \*V[])

{ glutInit(&C,V);

// FUNÇÃO PARAS AS CORES DA JANELA  
// RECEBE VALORES FLOAT PARA DAR COR A JANELA

// FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);

// LIMPANDO O BUFFER DA COR DE BACKGROUND

// INICIA O RETANGULO  
// CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO

// TERMINA O RETANGULO  
// ATUALIZA OS PIXELS

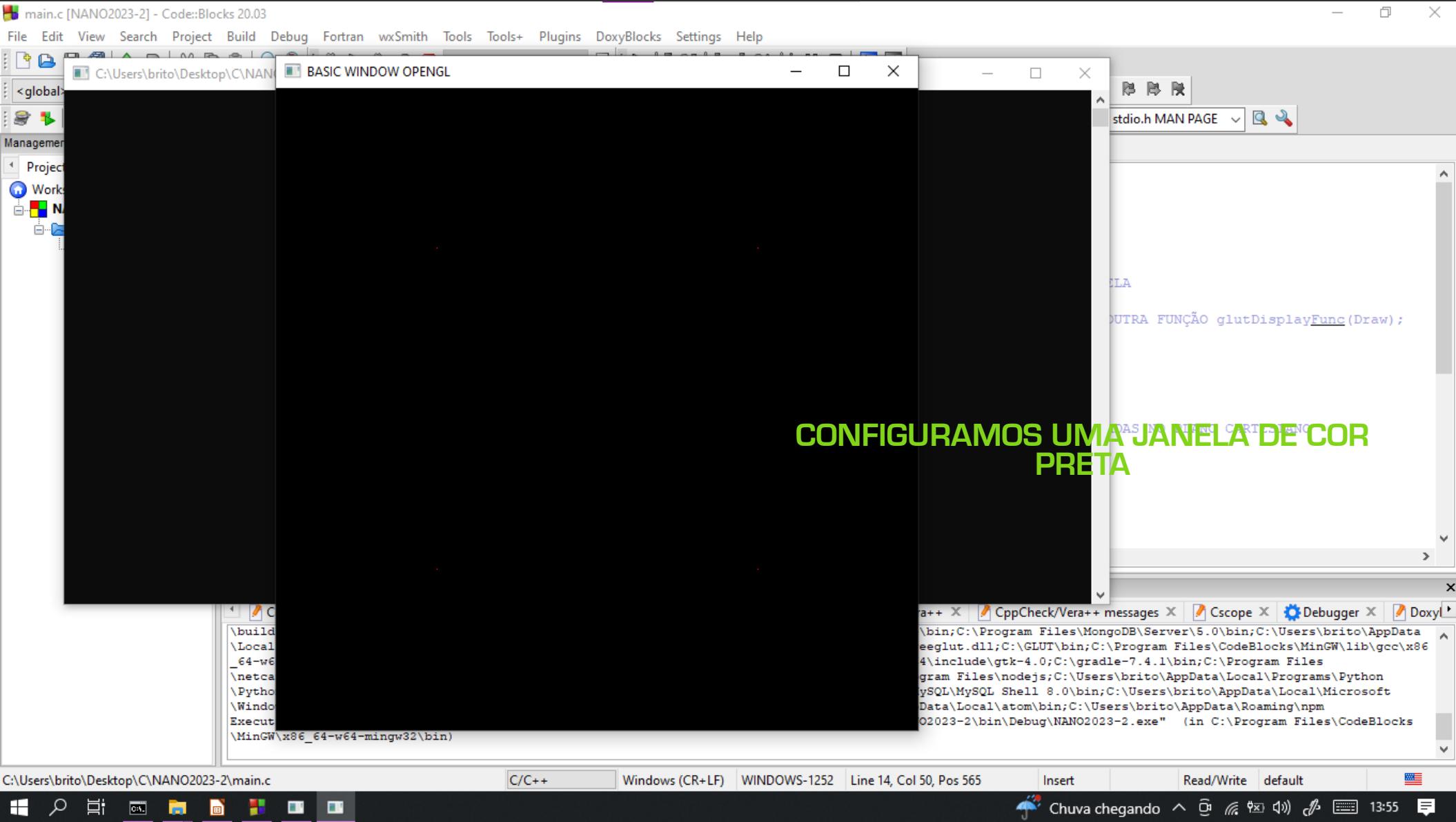
POR FIM COMPILE E EXECUTE

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy

\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm  
Executing: "C:\Program Files\CodeBlocks\cb\_console\_runner.exe" "C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw32\bin)  
Process terminated with status -1073741510 (0 minute(s) 10 second(s))

C:\Users\brito\Desktop\C\NANO2023-2\main.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 14, Col 50, Pos 570 Insert Modified Read/Write default Chuva chegando



```
/** DESENHANDO UM RETANGULO */
glPoi
(●) glPassThrough(): void
(●) glPixelMapfv(): void
(●) glPixelMapuiv(): void
(●) glPixelMapusv(): void
(●) glPixelStoref(): void
(●) glPixelStorei(): void
(●) glPixelTransferf(): void
(●) glPixelTransferi(): void
(●) glPixelZoom(): void
(●) glPointSize(): void
(●) glPolygonMode(): void
(●) glPolygonOffset(): void
```

Adicionando o tamanho dos pontos

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Draw() : void

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
#include <GL/glu.h>
#include <GL/glut.h>

void MyInit()
{
    glClearColor(0,0,0,1);
    glColor3f(1,0,0);
}

void Draw()
{
    glClear(GL_COLOR_BUFFER_BIT);

    /* DESENHANDO UM RETANGULO */
    glPointSize(5);
    glBegin(GL_POINTS);
    glVertex2d(-0.5, 0.5);
    glVertex2d( 0.5, 0.5);
    glVertex2d( 0.5,-0.5);
    glVertex2d(-0.5,-0.5);
    glEnd();
    glFlush();
}
```

stdio.h MAN PAGE

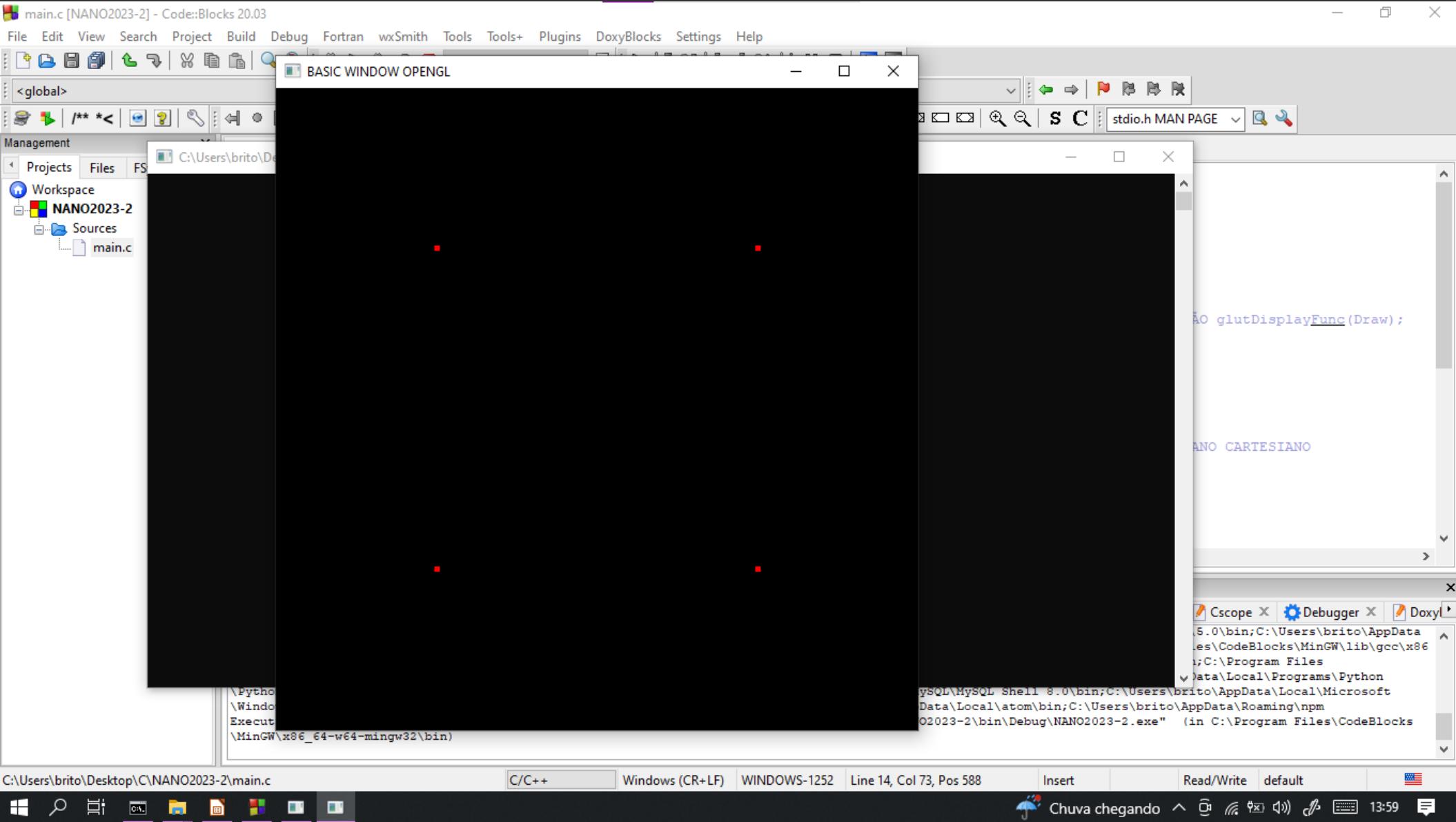
Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxy

\_64-w64-mingw32\lib;C:\msys64\mingw64\bin;C:\msys64\mingw64\include\gtk-3.0;C:\msys64\mingw64\include\gtk-4.0;C:\gradle-7.4.1\bin;C:\Program Files\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm

Executing: "C:\Program Files\CodeBlocks\cb\_console\_runner.exe" "C:\Users\brito\Desktop\C\NANO2023-2\bin\Debug\NANO2023-2.exe" (in C:\Program Files\CodeBlocks\MinGW\x86\_64-w64-mingw32\bin)

Process terminated with status -1073741510 (0 minute(s), 6 second(s))



```
8 }  
9     void Draw() // FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayF  
10 {  
11     glClear(GL_COLOR_BUFFER_BIT); // LIMPANDO O BUFFER DA COR DE BACKGROUND  
12  
13     /** DESENHANDO UM RETANGULO **/  
14     //glPointSize(5); // TAMANHO DO RETANGULO  
15     glBegin(GL_LINES); // INICIA O RETANGULO  
16     glVertex2d(-0.5, 0.5); // CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO  
17     glVertex2d( 0.5, 0.5);  
18     glVertex2d( 0.5,-0.5);  
19     glVertex2d(-0.5,-0.5);  
20     glEnd(); // TERMINA O RETANGULO  
21     glFlush(); // ATUALIZA OS PIXELS
```

... & others

Code::Blocks X Search results X Cccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debug

**COMENTE OU EXCLUA A LINHA DE CIMA E VAMOS DESENHAR LINES**

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Draw() : void

Management Projects Files FSymbols Workspace NANO2023-2 Sources main.c

```
#include <GL/glut.h>

void MyInit()
{
    glClearColor(0,0,0,1);
    glColor3f(1,0,0);
}

void Draw()
{
    glClear(GL_COLOR_BUFFER_BIT);

    /** DESENHANDO UM RETANGULO */
    //glPointSize(5);
    glBegin(GL_LINES);
    glVertex2d(-0.5, 0.5);
    glVertex2d( 0.5, 0.5);
    glVertex2d( 0.5,-0.5);
    glVertex2d(-0.5,-0.5);
    glEnd();
    glFlush();
}

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowPosition(250,50);
}
```

// FUNÇÃO PARAS AS CORES DA JANELA  
// RECEBE VALORES FLOAT PARA DAR COR A JANELA

// FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);

// LIMPPANDO O BUFFER DA COR DE BACKGROUND

// TAMANHO DO RETANGULO  
// INICIA O RETANGULO  
// CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO

// TERMINA O RETANGULO  
// ATUALIZA OS PIXELS

// POSTCÃO DA JANELA

Logs & others

Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

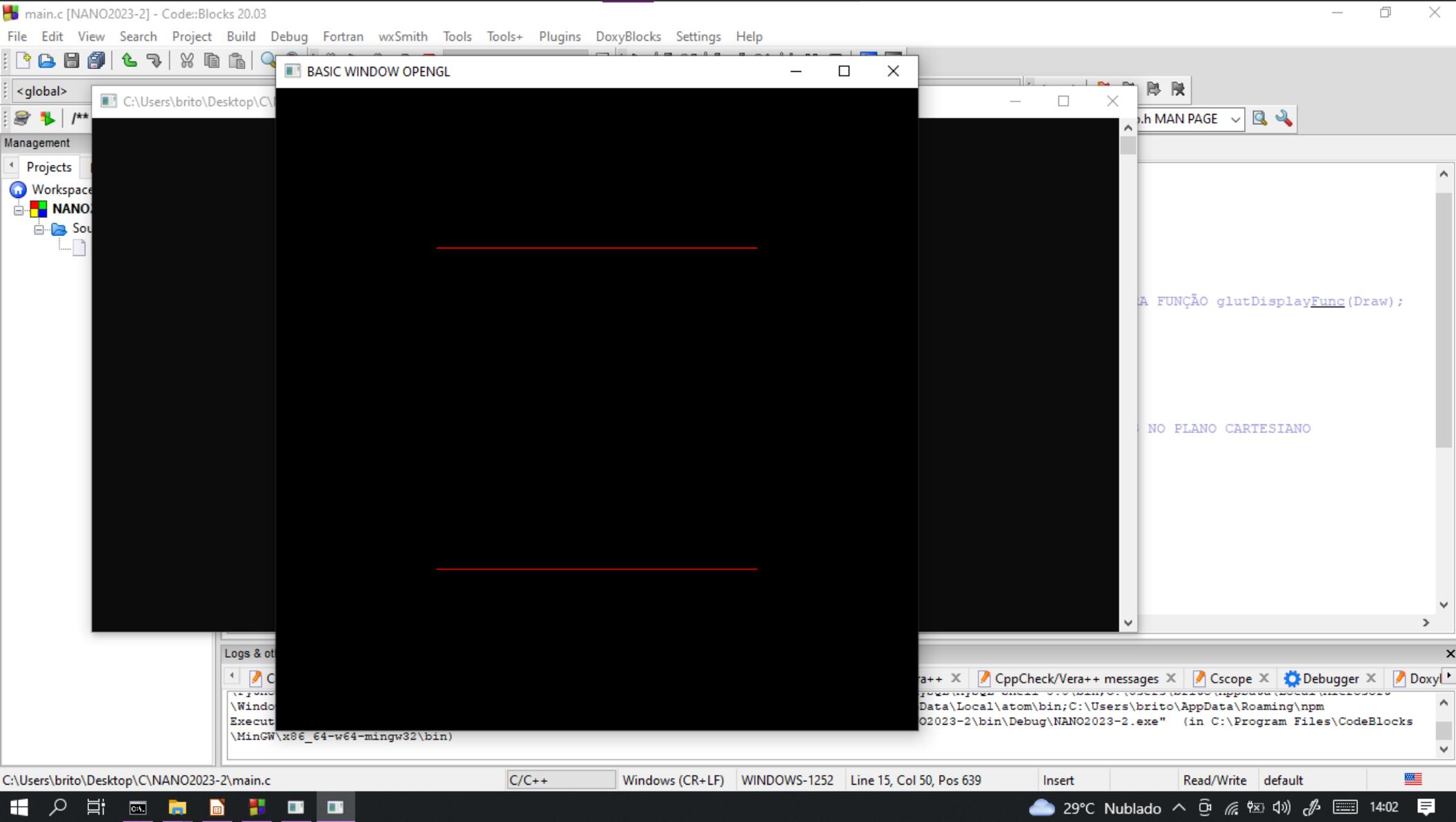
\_64-w64-mingw32\lib;C:\msys64\mingw64\bin;C:\msys64\mingw64\include\gtk-3.0;C:\msys64\mingw64\include\gtk-4.0;C:\gradle-7.4.1\bin;C:\Program Files\netcat-1.12;C:\apache-maven-3.8.6\bin;C:\gbdk\bin;C:\Users\brito\AppData\Roaming\nvm;C:\Program Files\nodejs;C:\Users\brito\AppData\Local\Programs\Python\Python310\Scripts;C:\Users\brito\AppData\Local\Programs\Python\Python310;C:\Program Files\MySQL\MySQL Shell 8.0\bin;C:\Users\brito\AppData\Local\Microsoft\WindowsApps;C:\Users\brito\.dotnet\tools;C:\Program Files (x86)\Brackets;C:\Users\brito\AppData\Local\atom\bin;C:\Users\brito\AppData\Roaming\npm

Executing: "C:\Program Files\CodeBlocks\cb\_console\_runner.exe" "C:\Users\brito\Desktop\NANO2023-2\main.c" (in C:\Users\brito\Desktop\NANO2023-2)

C:\Users\brito\Desktop\C\NANO2023-2\main.c

C/C++ Windows (CR+LF) WINDOWS-1252 Line 15, Col 50, Pos 639 Insert Modified Read/Write default

29°C Nublado



```
12  
13     /** DESENHANDO UM RETANGULO **/  
14     //glPointSize(5);  
15     glBegin(GL_LINE_ );  
16     glVertex # GL_LINE_BIT  
17     glVertex # GL_LINE_LOOP  
18     glVertex # GL_LINE_RESET_TOKEN  
19     glVertex # GL_LINE_SMOOTH  
20     glEnd # GL_LINE_SMOOTH_HINT  
21     glFlush # GL_LINE_STIPPLE  
22 }
```

\*main.c [NANO2023-2] - Code::Blocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help

Draw void

Management

Projects Files FSymbols

Workspace NANO2023-2 Sources main.c

```
#include <GL/glut.h>

void MyInit()
{
    glClearColor(0,0,0,1);
    glColor3f(1,0,0);
}

void Draw()
{
    glClear(GL_COLOR_BUFFER_BIT);

    /** DESENHANDO UM RETANGULO */
    //glPointSize(5);
    glBegin(GL_LINE_LOOP);
    glVertex2d(-0.5, 0.5);
    glVertex2d( 0.5, 0.5);
    glVertex2d( 0.5,-0.5);
    glVertex2d(-0.5,-0.5);
    glEnd();
    glFlush();
}

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowPosition(250,50);
}
```

// FUNÇÃO PARAS AS CORES DA JANELA  
// RECEBE VALORES FLOAT PARA DAR COR A JANELA

// FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);

// LIMPANDO O BUFFER DA COR DE BACKGROUND

// TAMANHO DO RETANGULO  
// INICIA O RETANGULO  
// CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO

// TERMINA O RETANGULO  
// ATUALIZA OS PIXELS

// POSTOÃO DA JANELA

Logs & others

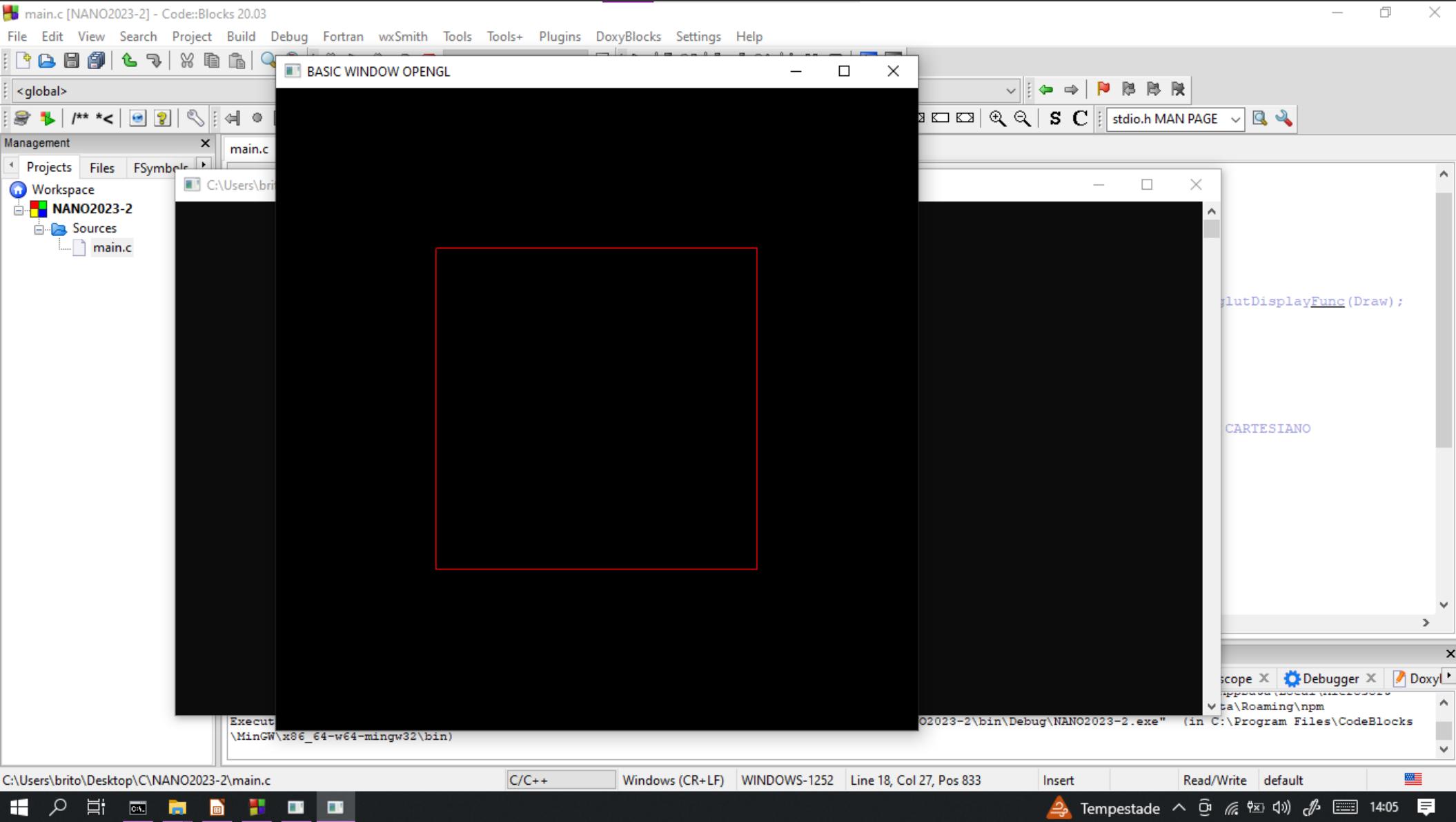
Code::Blocks X Search results X Ccc X Build log X Build messages X CppCheck/Vera++ X CppCheck/Vera++ messages X Cscope X Debugger X Doxygen X

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Process terminated with status -1073741510 (0 minute(s), 5 second(s))

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Tempestade



```
3     /** DESENHANDO UM RETANGULO ***/
4     //glPointSize(5);                                     // TAMANHO
5     glBegin(GL_Pol);                                  // INICIA O RETA
6     glVert;                                           // CADA PAI
7     glVert;
8     glVert;
9     glVert;
10    glEnd();
11    glFlush();
12 }
13 int main()
14 {
15     glutInit();
16     glutTr // TERMINA
17     // ATUALIZA
18     // POSTCÃO
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# Desenhando um retangulo sólido

\*main.c [NANO2023-2] - Code::Blocks 20.03

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Draw() : void

Management Projects Files FSymbols NANO2023-2 Sources main.c

```
#include <GL/glut.h>

void MyInit()
{
    glClearColor(0,0,0,1);
    glColor3f(1,0,0);
}

void Draw()
{
    glClear(GL_COLOR_BUFFER_BIT);

    /** DESENHANDO UM RETANGULO */
    //glPointSize(5);
    glBegin(GL_POLYGON);
    glVertex2d(-0.5, 0.5);
    glVertex2d( 0.5, 0.5);
    glVertex2d( 0.5,-0.5);
    glVertex2d(-0.5,-0.5);
    glEnd();
    glFlush();
}

int main(int C, char *V[])
{
    glutInit(&C,V);
    glutInitWindowPosition(250,50);
}
```

// FUNÇÃO PARAS AS CORES DA JANELA  
// RECEBE VALORES FLOAT PARA DAR COR A JANELA

// FUNÇÃO CRIADA PARA ATENDER O PEDIDA DA OUTRA FUNÇÃO glutDisplayFunc(Draw);

// LIMPANDO O BUFFER DA COR DE BACKGROUND

// TAMANHO DO RETANGULO  
// INICIA O RETANGULO  
// CADA PAR DE VALOR REPRESENTA AS COORDENADAS NO PLANO CARTESIANO

// TERMINA O RETANGULO  
// ATUALIZA OS PIXELS

// POSTOÃO DA JANELA

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\MinGW\x86\_64-w64-mingw32\bin)  
Process terminated with status -1073741510 (0 minute(s), 5 second(s))

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