

Taller 00

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Programa: Ciencia de Datos

```
exercise1.cpp X exercise2.cxx rectangle.cxx rectangle.h
exercise1.cpp > ...
1 // exercise2.cpp (Andrea Rueda)
2 // based on:
3 // main.cc (Andrew Gilpin, agg1@cec.wustl.edu)
4
5 // This file contains a modification of the example program used in the
6 // gdb debugging tutorial. The tutorial can be found on the web at
7 // http://students.cec.wustl.edu/~agg1/tutorial/
8
9 #include <iostream>
10
11 using namespace std;
12
13 int numb_inst = 0;
14
15 template <class T>
16 class Node {
17 public:
18     Node (const T &value, Node<T> *next = 0) {
19         value = value;
```

PROBLEMAS SALIDA CONSOLA DE DEPURACIÓN TERMINAL

```
● PS C:\Users\jusec\Downloads\Taller 01 sofia> g++ -std=c++23 *.cpp -o excercise1
● PS C:\Users\jusec\Downloads\Taller 01 sofia> ./excercise1
Creating Node, 1 are in existence right now
● Creating Node, 2 are in existence right now
Creating Node, 3 are in existence right now
Creating Node, 4 are in existence right now
The fully created list is:
4
3
2
1

Now removing elements:
Creating Node, 5 are in existence right now
Destroying Node, 4 are in existence right now
4
3
2
1
● PS C:\Users\jusec\Downloads\Taller 01 sofia>
```

exercise1.cppexercise2.cxxrectangle.cxxrectangle.h X

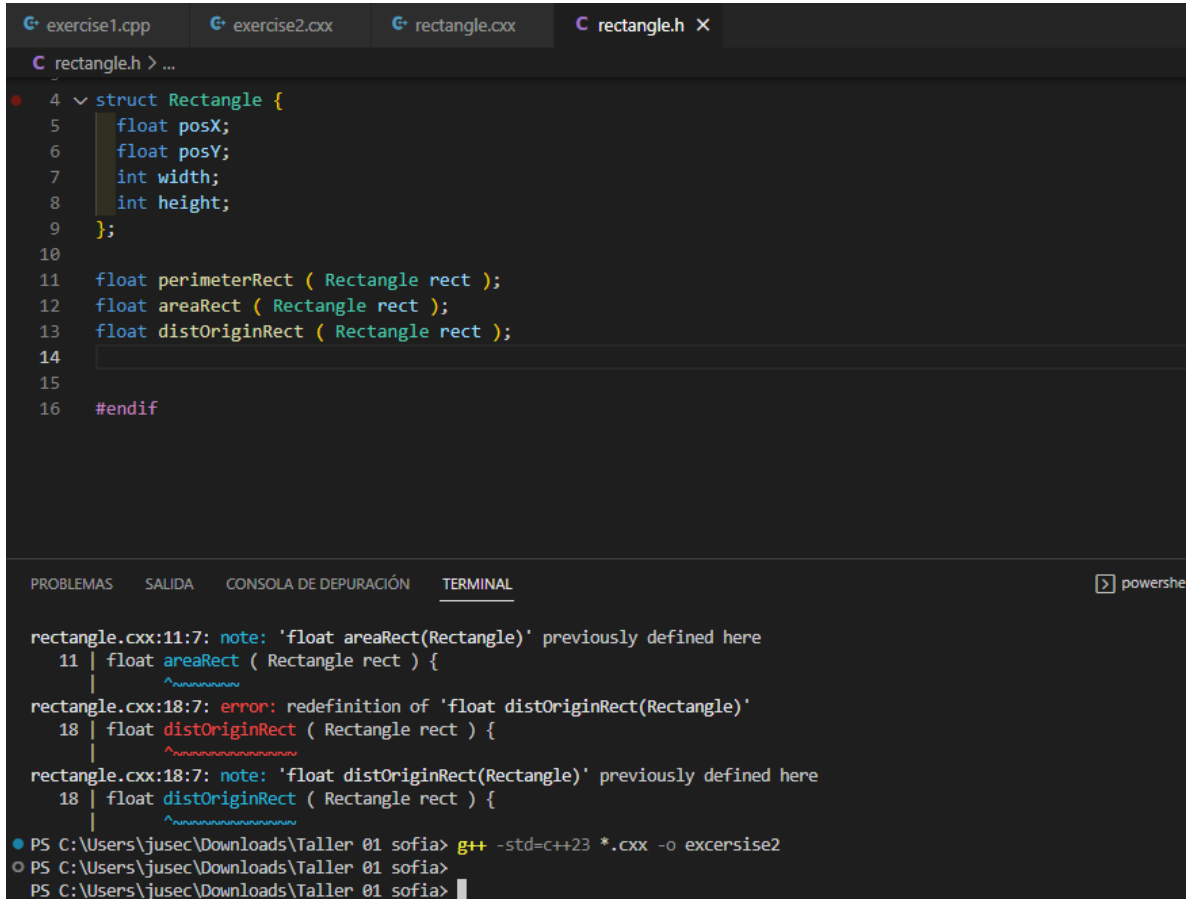
C rectangle.h > ...

9 };
10
11 float perimeterRect (Rectangle rect);
12 float areaRect (Rectangle rect);
13 float distOriginRect (Rectangle rect);
14
15 #include "rectangle.cxx"
16
17 #endif

PROBLEMAS SALIDA CONSOLA DE DEPURACIÓN TERMINAL

11 | float areaRect (Rectangle rect) {
 |
rectangle.cxx:11:7: note: 'float areaRect(Rectangle)' previously defined here
11 | float areaRect (Rectangle rect) {
 |
rectangle.cxx:18:7: error: redefinition of 'float distOriginRect(Rectangle)'
18 | float distOriginRect (Rectangle rect) {
 |
rectangle.cxx:18:7: note: 'float distOriginRect(Rectangle)' previously defined here
18 | float distOriginRect (Rectangle rect) {
 |
PS C:\Users\jusec\Downloads\Taller 01 sofia>

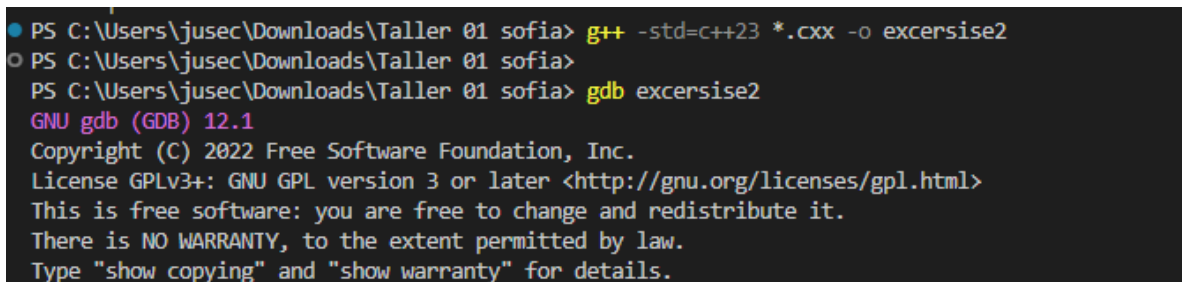
Los archivos con extensiones .c, .cpp y .cxx no deben incluirse en otros archivos, de la misma forma que los archivos con extensión .h no se compilan sino que se incluyen en otros archivos.



The screenshot shows a C++ IDE with four tabs: exercise1.cpp, exercise2.cxx, rectangle.cxx, and rectangle.h. The rectangle.h file is open, showing a struct Rectangle and three function declarations. The terminal window shows the following output:

```
rectangle.cxx:11:7: note: 'float areaRect(Rectangle)' previously defined here
11 | float areaRect ( Rectangle rect ) {
    | ^~~~~~
rectangle.cxx:18:7: error: redefinition of 'float distOriginRect(Rectangle)'
18 | float distOriginRect ( Rectangle rect ) {
    | ^~~~~~
rectangle.cxx:18:7: note: 'float distOriginRect(Rectangle)' previously defined here
18 | float distOriginRect ( Rectangle rect ) {
    | ^~~~~~
PS C:\Users\jusec\Downloads\Taller 01 sofia> g++ -std=c++23 *.cxx -o excercise2
PS C:\Users\jusec\Downloads\Taller 01 sofia>
PS C:\Users\jusec\Downloads\Taller 01 sofia>
```

Cuando se elimina la inclusión del archivo “.cxx” compila correctamente.



The screenshot shows a terminal window with the following output:

```
PS C:\Users\jusec\Downloads\Taller 01 sofia> g++ -std=c++23 *.cxx -o excercise2
PS C:\Users\jusec\Downloads\Taller 01 sofia>
PS C:\Users\jusec\Downloads\Taller 01 sofia> gdb excercise2
GNU gdb (GDB) 12.1
Copyright (C) 2022 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
```

```
(gdb) run
Starting program: C:\Users\jusec\Downloads\Taller 01 sofia\excercise2.exe
[New Thread 19100.0x16bc]
[New Thread 19100.0x3420]
[New Thread 19100.0x3d10]
Ingrese coordenada X de la posicion del rectangulo: 4
Ingrese coordenada Y de la posicion del rectangulo: 4
Ingrese ancho del rectangulo: 5
Ingrese alto del rectangulo: 10

Perimetro del rectangulo: 20
Area del rectangulo: 15
```

```
Perimetro del rectangulo: 20
Area del rectangulo: 15
Distancia del rectangulo al origen de coordenadas: 5.65685
[Thread 19100.0x3420 exited with code 0]
[Thread 19100.0x3d10 exited with code 0]
[Thread 19100.0x16bc exited with code 0]
[Inferior 1 (process 19100) exited normally]
(gdb) █
```

Se encuentran retornos erróneos por lo tanto se debe verificar la implementación de las funciones.

```

v float perimeterRect ( Rectangle rect ) {
    float perim = 0.0;
    perim = 2.0 * rect.width + rect.height;
    return perim;
}

v float areaRect ( Rectangle rect ) {
    float area = 0.0;
    area = rect.width + rect.height;
    return area;
}

```

Se encuentra una implementación errónea en las implementaciones de los métodos perimeterRect y areaRect, por lo tanto se deben corregir y compilar nuevamente.

```

float perimeterRect ( Rectangle rect ) {
    float perim = 0.0;
    perim = (2.0 * rect.width) + (2 * rect.height);
    return perim;
}

float areaRect ( Rectangle rect ) {
    float area = 0.0;
    area = rect.width * rect.height;
    return area;
}

```

```

(gdb) run
Starting program: C:\Users\jusec\Downloads\Taller 01 sofia\excercise2.exe
[New Thread 19020.0x3524]
[New Thread 19020.0x64dc]
[New Thread 19020.0x2ad8]
Ingrese coordenada X de la posicion del rectangulo: 4
Ingrese coordenada Y de la posicion del rectangulo: 4
Ingrese ancho del rectangulo: 5
Ingrese alto del rectangulo: 10

Perimetro del rectangulo: 30
Area del rectangulo: 50

```

```

Ingrese coordenada Y de la posicion del rectangulo: 4
Ingrese ancho del rectangulo: 5
Ingrese alto del rectangulo: 10

Perimetro del rectangulo: 30
Area del rectangulo: 50
Distancia del rectangulo al origen de coordenadas: 5.65685
[Thread 19020.0x64dc exited with code 0]
[Thread 19020.0x2ad8 exited with code 0]
[Thread 19020.0x3524 exited with code 0]
[Inferior 1 (process 19020) exited normally]
(gdb)

```

Posteriormente de corregir el código, se compila y se hace una prueba que retorna los valores correctos.