PROGRAMACIÓN AVANZADA

WINAPI

LMAD

header:

```
#ifndef HEADER_H
#define HEADER_H

// any source file that includes this will be able to use "global_x"
extern int global_x;

void print_global_x();

#endif
```

- ✓HEADER
- ✓SE DECLARAN TODAS LAS VARIABLES GLOBALES CON “EXTERN” PERO SIN ASIGNAR UN VALOR.
- ✓SE PONEN TODOS LOS PROTOTIPOS DE LAS FUNCIONES DEL SOURCE2.CPP

SOURCE_1.CPP

- ✓EL INCLUDE AL HEADER
- ✓DECLARACIONES DE VARIABLES GLOBALES, SE PUEDEN INICIALIZAR.
- ✓LA FUNCIÓN WINAPI WINMAIN
- ✓LAS FUNCIONES CALLBACK, CON SUS PROTOTIPOS

source 1:

```
#include "header.h"

// it needs to be defined somewhere
int global_x;

int main()
{
    //set global_x here:
    global_x = 5;

    print_global_x();
}
```

SOURCE_2.CPP

- ✓INCLUDE AL HEADER
- ✓Y EL RESTO DE LAS FUNCIONES, CUYO PROTOTIPO SE DECLARÓ EN EL HEADER.

source 2:

```
#include <iostream>
#include "header.h"

void print_global_x()
{
    //print global_x here:
    std::cout << global_x << std::endl;
}
```

DEFINITION –VS – DECLARATION

A ***declaration*** introduces an identifier and describes its type, be it a type, object, or function. A declaration is ***what the compiler needs*** to accept references to that identifier. These are declarations:

```
extern int bar;
extern int g(int, int);
double f(int, double); // extern can be omitted for function declarations
class foo; // no extern allowed for type declarations
```

A ***definition*** actually instantiates/implements this identifier. It's ***what the linker needs*** in order to link references to those entities. These are definitions corresponding to the above declarations:

```
int bar;
int g(int lhs, int rhs) {return lhs*rhs;}
double f(int i, double d) {return i+d;}
class foo {};
```

A definition can be used in the place of a declaration.

An identifier can be *declared* as often as you want.

EXTERN

C++

```
//fileA.cpp
int i = 42; // declaration and definition

//fileB.cpp
extern int i;  // declaration only. same as i in FileA

//fileC.cpp
extern int i;  // declaration only. same as i in FileA

//fileD.cpp
int i = 43; // LNK2005! 'i' already has a definition.
extern int i = 43; // same error (extern is ignored on definitions)
```

REFERENCES:

HTTPS://DOCS.MICROSOFT.COM/EN-US/CPP/CPP/HEADER-FILES-CPP?VIEW=VS-2017

HTTPS://DOCS.MICROSOFT.COM/EN-US/CPP/CPP/EXTERN-CPP?VIEW=VS-2017