

Práctica 01. Variables en C++

Definir variables en C++

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Creare un C++ Console App



Create a new project

Choose a project template with code scaffolding to get started



Console App

Run code in a Windows terminal. Prints "Hello World" by default.

C++

Windows

Console









Create a new project

Recent project templates

- Console App C#
- CUDA 12.1 Runtime C++
- Windows Desktop Application C++
- Console App C++
- CUDA 11.7 Runtime C++

console x Clear all

All languages All platforms All project types

-  **Console App**
A project for creating a command-line application that can run on .NET on Windows, Linux and macOS
C# Linux macOS Windows **Console**
-  **Console App**
A project for creating a command-line application that can run on .NET on Windows, Linux and macOS
Visual Basic Linux macOS Windows **Console**
-  **Console App**
Run code in a Windows terminal. Prints "Hello World" by default.
C++ Windows **Console**
-  TypeScript **Console Application**
A basic TypeScript **Console** application template which can be run with your local node installation.
TypeScript Web
-  JavaScript **Console Application**
A basic JavaScript **Console** application template which can be run with your local node installation.
JavaScript Web
-  **Console App (.NET Framework)**
A project for creating a command-line application
C# Windows **Console**
-  **Console App (.NET Framework)**
A project for creating a command-line application
Visual Basic Windows **Console**
-  **Console App**

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Next

Crear un C++ Console App

Configure your new project

Console App

C++

Windows

Console

Project name

Prog01_VariablesenC

Location

C:\TrabajoLaboratorio\CUDATopico2\Projects\Verano2024

...

Solution name ⓘ

Prog01_VariablesenC

☐

Place solution and project in the same directory

Project will be created in "C:\TrabajoLaboratorio\CUDATopico2\Projects\Verano2024\Prog01_VariablesenC\Prog01_VariablesenC"

Back

Create

Comandos

Definir un apuntador

```
Type* pointerName;
```

Ejemplo:

```
int* aPtr;
```

Definir un apuntador y asignarle una dirección de memoria

```
Type* pointerName= &variable;
```

Ejemplo:

```
int* aPtr= &a;
```

Conocer la dirección de memoria de una variable

```
&variable
```

Ejemplo:

```
&suma
```

Obtener/modificar el contenido de una dirección de memoria

```
*pointerName
```

Ejemplo:

```
*aPtr
```

```
*aPtr=25;
```

Memoria

CPU (Host)

A01	a	10
A05	b	20
A10	c	
A15	f	205.78
A20		
B01		
B05		
B10	aPtr	A01
B15	bPtr	A05
B20	cPtr	A10
C30	fPtr	A15
E07		
E10		

Código

```
////////////////////////////////////
//          Program 01 Variables          //
// Autor: Sandra Luz Canchola Magdaleno    //
// Email: sandracanchola@yahoo.com        y //
//          sandra.canchola@uaq.mx        //
////////////////////////////////////
#include <iostream>
using namespace std;

int main(int argc, char* argv[])
{
    int a = 10;
    int b = 20;
    int c;
    float f = 205.78;
    int* aPtr = &a;
    int* bPtr = &b;
    int* cPtr = &c;
    float* fPtr = &f;
    cout << "=====\n";
    cout << "The sum of " << a << " + " << b << " = " << a + b << "\n";
    cout << "The value of f is " << f << "\n";
    cout << "=====\n";

    cout << "The memory addresses of the variables are:\n";
    cout << " A) a is: " << &a << "\n";
    cout << " B) b is: " << &b << "\n";
    cout << " C) c is: " << &c << "\n";
    cout << " D) f is: " << &f << "\n";
    cout << " E) aPtr is: " << &aPtr << "\n";
    cout << " F) bPtr is: " << &bPtr << "\n";
    cout << " G) cPtr is: " << &cPtr << "\n";
    cout << " H) fPtr is: " << &fPtr << "\n";
    cout << "=====\n";
}
```

Código

```
cout << "The content of the pointer variables is:\n";
cout << " A) aPtr is: " << aPtr << "\n";
cout << " B) bPtr is: " << bPtr << "\n";
cout << " C) cPtr is: " << cPtr << "\n";
cout << " D) fPtr is: " << fPtr << "\n";

cout << "=====\n";

cout << "The original content of the variables referred by pointer are:\n";
cout << " A) aPtr is: " << *aPtr << "\n";
cout << " B) bPtr is: " << *bPtr << "\n";
cout << " C) cPtr is: " << *cPtr << "\n";
cout << " D) fPtr is: " << *fPtr << "\n";
a = 345;
*bPtr = 777;
c = *bPtr + 13;
*cPtr = *cPtr + 25;

cout << "=====\n";

cout << "The actual content of the variables referred to by pointer are:\n";
cout << " A) aPtr is: " << *aPtr << "\n";
cout << " B) bPtr is: " << *bPtr << "\n";
cout << " C) cPtr is: " << *cPtr << "\n";
cout << " D) fPtr is: " << *fPtr << "\n";

cout << "=====\n";

system("pause");
return 0;
}
```

Corrida

```
C:\TrabajoLaboratorio\CUD x + v
=====
The sum of 10 + 20 = 30
The value of f is 205.78
=====
The memory addresses of the variables are:
A) a is: 000000892F35F7E4
B) b is: 000000892F35F804
C) c is: 000000892F35F824
D) f is: 000000892F35F844
E) aPtr is: 000000892F35F868
F) bPtr is: 000000892F35F888
G) cPtr is: 000000892F35F8A8
H) fPtr is: 000000892F35F8C8
=====
The content of the pointer variables is:
A) aPtr is: 000000892F35F7E4
B) bPtr is: 000000892F35F804
C) cPtr is: 000000892F35F824
D) fPtr is: 000000892F35F844
=====
The original content of the variables referred by pointer are:
A) aPtr is: 10
B) bPtr is: 20
C) cPtr is: -858993460
D) fPtr is: 205.78
=====
The actual content of the variables referred to by pointer are:
A) aPtr is: 345
B) bPtr is: 777
C) cPtr is: 815
D) fPtr is: 205.78
=====
Presione una tecla para continuar . . . |
```


Bibliografía

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Gracias por su atención



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