

Pointer to a function

This lesson explains how a pointer to a function works using an example

We'll cover the following



- Syntax
- Reading Pointers to Functions
- Using a Pointer to Function
 - Example

A *pointer* contains a reference. It may also point to a *function*.

Syntax

The *syntax* for declaring a *function pointer* is as follows:

```
functiontype (pointer to function)(datatype);
```



Reading Pointers to Functions

If you're given a pointer to a function as follows:

```
void (*fp)(float);
```



It means that `*fp` is a *pointer* to a function that takes a `float` type argument and returns `void`.

Using a Pointer to Function

Now let's take a look at how we can use **pointers to functions** while coding in C++.

Example

```
#include <iostream>
using namespace std;

/* Declaration */
void (*fp)(); //fp is a pointer to a function taking zero arguments and that returns void
```



```
/* Initialization */  
void foobar()  
{  
    std::cout << "Hello from foobar()" << std::endl;  
}  
  
int main(){  
    fp = &foobar; //to initialize a function pointer we give it the address of the function foobar  
  
    /* Now we call fp that contains the address of the function foobar()*/  
    fp();  
}
```



This marks the end of the chapter on *arrays* and *pointers*. Next up, we will discuss *classes* in C++. Stay Tuned!