**Differences Between Object Oriented Programming in Python and C++**

Python and C++ are both well known, high-level programming languages. Both can be used to program using a variety of paradigms, from procedural to object oriented. However, there are some notable differences between Python and C++ when it comes to object oriented programming (OOP).

One of the major differences is in the programming approach between the different languages. Python is a dynamic language in that the variable types (integer, string etc.) are not checked at compile time, whereas C++ is statically typed so declaratives and data types are checked when the program is compiled. (<https://www.softwaretestinghelp.com/python-vs-cpp/>, 12/10/2020)

Polymorphism is another difference between Python and C++. In python, any classes etc. are implicitly polymorphic, by which we mean that a function in Python can accept multiple types of arguments without issue. The code will still work accordingly (as long as the data types are similar, i.e. integers and longs, or strings, lists and dictionaries etc.) C++ on the other hand will use a different function depending on the type of object that calls the function in the first place. Such a process needs to be coded into the C++ script. (<https://www.geeksforgeeks.org/polymorphism-in-python/?ref=lbp>, 12/10/2020)  
(<https://www.tutorialspoint.com/cplusplus/cpp_polymorphism.htm>, 12/10/2020)  
(Object Oriented Programming in Turbo C++, pg 14, Lafore, Robert, 12/10/2020)

Inheritance is also slightly different in C++ and in Python. In Python, the base classes do not have their construction called automatically. In C++ these constructors are called automatically. Multiple inheritance works both in Python and in C++.   
(<https://realpython.com/python-vs-cpp/#differences>, 12/10/2020)

A key difference available in C++ that is not found in Python is the use of operator overloads. An operator overload allows you to define the way specific syntactical operators can work. In C++ to overload this you can create a new function in the class. In Python this is not possible and you must rely on ‘dunder methods’ such as \_\_str\_\_ and \_\_repr\_\_.  
(<https://realpython.com/python-vs-cpp/#differences>, 12/10/2020)  
(Object Oriented Programming in Turbo C++, pg 14, Lafore, Robert, 12/10/2020)