

Classes & Objects

Destructor

For a C++ class, a *destructor* is a special method that handles object destruction, generally focused on preventing memory leaks. Class destructors don't take arguments as input and their names are always preceded by a tilde ~.

```
City::~~City() {  
  
    // Any final cleanup  
  
}
```

Class Members

A class is comprised of class members:

- *Attributes*, also known as member data, consist of information about an instance of the class.
- *Methods*, also known as member functions, are functions that can be used with an instance of the class.

```
class City {  
  
    // Attribute  
    int population;  
  
public:  
    // Method  
    void add_resident() {  
        population++;  
    }  
  
};
```

Constructor

For a C++ class, a *constructor* is a special kind of method that enables control regarding how the objects of a class should be created. Different class constructors can be specified for the same class, but each constructor signature must be unique.

Objects

In C++, an *object* is an instance of a class that encapsulates data and functionality pertaining to that data.

Class

A C++ class is a user-defined data type that encapsulates information and behavior about an object. It serves as a blueprint for future inherited classes.

Access Control Operators

C++ classes have access control operators that designate the scope of class members:

- `public`
- `private`

`public` members are accessible everywhere; `private` members can only be accessed from within the same instance of the class or from friends classes.

```
#include "city.hpp"

class City {

    std::string name;
    int population;

public:
    City(std::string new_name, int new_pop);

};
```

```
City nyc;
```

```
class Person {

};
```

```
class City {

    int population;

public:
    void add_resident() {
        population++;
    }
};
```

```
}  
  
private:  
    bool is_capital;  
  
};
```

 Save

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