



lesson 18 map

Maps are associative containers that store elements in a combination of key values and mapped values that follow a specific order. No two mapped values can have the same key values.

In C++, maps store the key values in ascending order by default.

Syntax :

```
map<string, int>name_map;
```

Example:

```
#include <iostream>
```

```
#include <string>
```

```
#include <map>
```

```
using namespace std;
```

```
int main() {
```

```
    map<int, string> m;
```

```
    m[123] = "Gamma";
```

```
    m[456] = "Tech";
```

```
    m[111] = "www.";
```

```
    map<int, string>::iterator x;
```



```
for (x = m.begin(); x != m.end(); x++) {  
    cout << (*x).first << " ";
```

```
    cout << (*x).second << "\n";  
}  
}
```

output:

111 www.

123 Gammal

456 Tech

Maps come with some basic **built-in functions**. Some of them are explained below:

- **begin()**: Returns an iterator to the first element in the map.
- **size()**: Returns the number of elements in the map.
- **empty()**: Returns a boolean value indicating whether the map is empty.
- **insert(pair(key, value))**: Adds a new key-value pair to the map. An alternate way to insert values in the map is: