

CER4C3

Abstraction and Paradigms of Programming

Bachelor of Engineering
Computer Engineering
II Year IV Semester

Components of STL

FUNCTION OBJECTS - A Function object is a function wrapped in a class so that it looks like an object. A function object extends the characteristics of a regular function by using the feature of an object oriented such as generic programming. Therefore, we can say that the function object is a smart pointer that has many advantages over the normal function.

Advantages of Function Object Over Function

- Function objects can have member functions as well as member attributes.
- Function objects can be initialized before their usage. Regular functions can have different types only when the signature differs.
- Function objects can have different types even when the signature is the same.
- Function objects are faster than the regular function.

Components of STL

- A function object is also known as a 'functor'.
- A function object is an object that contains at least one definition of operator() function.
- It means that if we declare the object 'd' of a class in which operator() function is defined, we can use the object 'd' as a regular function.

Components of STL

```
#include <iostream>
using namespace std;
class function_object
{
public:
    int operator()(int a, int b)
    {
        return a+b;
    }
};

int main()
{
    function_object f;
    int result = f(5,5);
    cout<<"Addition of a and b is : "<<result;

    return 0;
}
```