

OBJECT ORIENTED PROGRAMMING LAB

Experiment-3

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Task:- Write a program to find the greatest of two given numbers in two different classes using friend function

Friend function

A friend function of a class is defined outside that class' scope but it has the right to access all private and protected members of the class. Even though the prototypes for friend functions appear in the class definition, friends are not member functions.

In Short, a friend function once declared in a class, can use all the members of the class, despite the fact that it is defined outside the class.

For example:-

#Code

```
#include "bits/stdc++.h"
```

```
using namespace std;
```

```
class one;
```

```
class two;
```

```
class one {  
    int a;  
    public:  
        friend int largest(one a, two b);  
        void input();  
};
```

```
void one::input(){  
    cout << "Enter first Number : ";  
    cin >> a;  
}
```

```
class two {  
    int b;  
    public:  
        friend int largest(one a, two b);  
        void input();  
};
```

```
void two::input(){  
    cout << "Enter second Number : ";  
    cin >> b;
```

```

}

int largest(one a, two b){
    return (a.a > b.b) ? a.a : b.b ;
}

int main()
{
    one a;
    a.input();
    two b;
    b.input();
    cout<<"larger Number is "<<largest(a,b)<<endl;

    return 0;
}

```

#OUTPUT

The screenshot displays a C++ IDE with two panels. The left panel shows the source code for `main.cpp`, which defines two classes, `one` and `two`, each with an `input()` method and a `friend` function `largest` that compares their attributes. The right panel shows the program's execution output, where the user enters 552 and 536, and the program correctly identifies 552 as the larger number.

```

main.cpp
#include "bits/stdc++.h"
using namespace std;

class one;
class two;

class one {
    int a;
    public:
        friend int largest(one a, two b);
        void input();
};

void one::input() {
    cout << "Enter first Number : ";
    cin >> a;
}

class two {
    int b;
    public:
        friend int largest(one a, two b);
        void input();
};

void two::input() {
    cout << "Enter second Number : ";
    cin >> b;
}

int largest(one a, two b) {

```

```

"C:\Users\chand\Desktop\coding\open folders\test2\main.exe"
Enter first Number : 552
Enter second Number : 536
larger Number is 552

Process returned 0 (0x0)   execution time : 7.713 s
Press any key to continue.

```