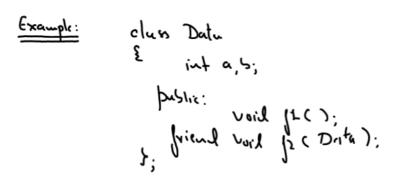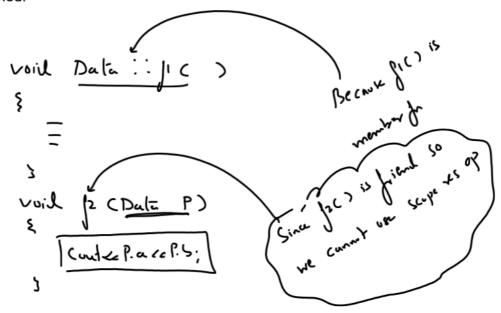# Friend Function

Friend functions are special functions introduced by C++ language and even though they are not member functions of a class still they can access private data members of the class.

Special Properties of friend functions
==============================
1. To declare a function as friend of a class, we have to declare it within the class body prefixed with the keyword **"friend"**

Example:

```
class Data
{
      int a,b;

   public:
             void f1();
   friend void f2( Data );
};
```

2. Whenever a friend function is define, neither the name of the class nor the :: (scope resolution operator) is applied. Moreover the keyword friend also is not mentioned.

```
void Data :: f1 ( )
{
      ---
      ---
}

void f2 (Data P)
{
      cout<< P.a << P.b;
}
```

Because f1() is member of

Since f2() is friend so we cannot use scope xs of

3. Whenever we call a friend function, we never use **DOT OPERATOR** nor we have any calling object for friend function but the friend function may however accept the object as argument whose data members it wants to access.

```
int main( )
{
    Data D;

    D.f1( );

    D.f2( ); X
    f2(D);

    =
}
```

4. It doesn't matter in which section of the class we have declared a friend function because we can always access it from anywhere in our program.

Example:

```
class Data
{
    int a,b;

        void f1();
  ;   friend void f2( Data );
                                    ] Both are declared in
                                      private
                                      section


int main()
{
    Data D;
    D.f1();  X
    f2(D);  ✓
}
```

5. Friend function don't have any "this" pointer. This is because friend functions are not member functions and they also don't have any calling object while "this" pointer is always available in member functions and points to calling object.

Assignment
========
WAP to create a class called Student with data members called **roll**, **grade**, and **per** of type **int**, **char**, and **float** respectively. Declare two functions in the class called **get()** and **show(). get()** should be declared as member function and should accept values from the user for **roll**, **grade** and **per** while **show()** should be declared as friend function and should display these values. Finally declare two object of Student class called S and T in main(), accept values for them and then display them.