

[1*] 1. Why the following declaration for class X copy constructor is illegal?

```
class X {  
public:  
    X(const X);  
    // ...  
};
```

[2*] 2. Declare (just declare) all comparison or relational operators and arithmetic operators for the class Date:

+, -, <, >, +=, -=, ==, !=, <=, >=, ++, --

Think about the declaration of operator functions as both non-member and member functions.

[2*] 3. Implement the arithmetic operators and comparison operators for Rational numbers

+, -, <, >, +=, -=, ==, !=, <=, >=, ++, --

Think about which ones should be member functions and which ones should be nonmember functions.

[1*] 4. As you saw in class vector, the implementation of the copy constructor and copy assignment operator have a common part for copying/assignment of source into destination, something like this:

```
for (int i = 0; i < v.sz; ++i)  
    elem[sz] = v[sz];
```

Refactor this common part as a member function under the name copy. Do you put this function under private or public label.