Practical Lecture : Operator Overloading 2

Quick Recap

Let's take a quick recap of previous lecture –

A)

B)

C)

D)

E)

Today's Agenda

Today we are going to cover -

- Overloading Binary Operator using a Friend function

- MCQ Question

- Coding Based Question

Let's Get Started-

Overloading Binary Operator using a Friend

In this approach, the operator overloading function must precede with friend keyword, and declare a function class scope. Keeping in mind, friend operator function takes two parameters in a binary operator, varies one parameter in a unary operator. All the working and implementation would same as binary operator function except this function will be implemented outside of the class scope.

Overloading Binary Operator using a Friend

```cpp
#include <iostream>

using namespace std;

class Distance {
public:

    // Member Object
    int feet, inch;

    // No Parameter Constructor
    Distance()
    {
        this->feet = 0;
        this->inch = 0;
    }
```

Overloading Binary Operator using a Friend

```cpp
// Implementing friend function with two parameters
Distance operator+(Distance& d1, Distance& d2) // Call by reference
{
    // Create an object to return
    Distance d3;

    // Perform addition of feet and inches
    d3.feet = d1.feet + d2.feet;
    d3.inch = d1.inch + d2.inch;

    // Return the resulting object
    return d3;
}
```

Overloading Binary Operator using a Friend

```cpp
int main()
{  // Declaring and Initializing first object
   Distance d1(8, 9);

   // Declaring and Initializing second object
   Distance d2(10, 2);

   // Declaring third object
   Distance d3;

   // Use overloaded operator
   d3 = d1 + d2;

   // Display the result
   cout << "\nTotal Feet & Inches: " << d3.feet << "'" << d3.inch;
   return 0;
}
```

MCQ 1

Which of the following operators cannot be overloaded

A (Member Access or Dot operator)

B?: (Ternary or Conditional Operator)

C:: (Scope Resolution Operator)

D.* (Pointer-to-member Operator)

E. All the above

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MCQ 2

Which is the correct example of a binary operator?

a) ++

b) —

c) Dereferencing operator(*)

d) +

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MCQ 3

Which is the correct statement about operator overloading?

a) Only arithmetic operators can be overloaded

b) Only non-arithmetic operators can be overloaded

c) Precedence of operators are changed after overlaoding

d) Associativity and precedence of operators does not change

MCQ 3

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Which of the following operators should be preferred to overload as a global function rather than a member method?

A Postfix ++

B Comparison Operator

C Insertion Operator <<

D Prefix+

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2) In case of operator overloading, operator function must be _____ .

1. Static member functions

2. Non- static member functions

3. Friend Functions

a. Only 2

b. Only 1, 3

c. Only 2 , 3

d. All 1 , 2, 3

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MCQ 6

When overloading unary operators using Friend function, it requires_____ argument/s.

a. Zero

b. One

c. Two

d. None of these.

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Questions

1) What do you understand by operator overloading explain with example?

2) Which operators cannot be overloaded?

3)What are the different approach to overload operator?

QNA Time

Any Questions ??
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Thank You!

See you guys in next class.