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Object Oriented Programming

Exp. 5 : Operator overloading (unary)

⊙ Activity :

1) Write a program to overload minus operator (-) to negate the numbers.

⇒

```
#include <iostream>
using namespace std;

class Numbers
{
        int a,b;
    public:
        Numbers()
        {
            a=0; b=0;
        }

        Numbers(int a1, int b1)
        {
            a=a1; b=b1;
        }

        void getData()
        {
            cout<<"\n"<<a<<"\t"<<b;
        }

        void operator -()
        {
            a=-a;
            b=-b;
        }
};
```

```
int main()
{
    Numbers n(10, 20);
    n.getData();
    -n;
    n.getData();

    return 0;
}
```

Output : 10 20
-10 -20

2> Write a program to overload increment & decrement operators.

⇒

```
#include <iostream>
using namespace std;

class Counter
{
        int cnt;
  public:
        Counter()
        {
            cnt = 0;
        }
        void getCount()
        {
            cout << "Count is: " << cnt << endl;
        }
```

```
    void operator ++()
    {
        cnt++;
    }
    void operator --()
    {
        cnt--;
    }
};

int main()
{
    Counter c;
    ++c;
    ++c;
    c.getCount();
    --c;
    c.getCount();

    return 0;
}
```

Output : Count is : 2
Count is : 1

⊖ Questions :

1) What is the syntax of overloading operator + for class A ?
⇒ a) A operator + (argument_list) { }

2) What is operator overloading in C++ ?
⇒ All of the above mentioned.

3) Which of the following operator cannot be overloaded ?
⇒ ?:

4) How many maximum object arguments a unary operator overloaded function can take ?
⇒ a) 1

⊙ Conclusion : In unary operator function, no arguments should be passed (except postfix ++ & --). It works only with one class object. It is overloading of an operator operating on a single operand. We can achieve polymorphism using operator overloading.