**Lab – 7**

Operator overloading problems. Refer to the lecture slides #5 for more details or help.

1. Create a class with one private integer variable and public constructors along with show() function to display the variable value. Implement the operator overloading program using the following member functions:
2. No return just increment the object in the main function e.g. obj++;

*void* operator ++() {

//…

}

1. Return object after increment in the main function e.g. obj2 = obj1++;

*MyClass* operator ++() {

//…

}

1. Implement the binary operator overloading to implement addition of a distance object consisting two integer variables x,y. d3 = d1+d2; operations in main and member function syntax shown below.

Distance operator+(Distance& d) {

Distance d3;

d3.x = x+d.x; d3.y = y+d.y;

return d3;

}

1. Write a program to overload unary minus(-) using the given member function

Distance operator- () {

         feet = -feet;

         inches = -inches;

         return Distance(feet, inches); // or return \*this;

      }

1. Practice to overload the following operators:

* Arithmatic (+ , – , \* , /)
* relational (== or <= etc)
* logical (&& or || etc.)
* bitwise (&, | etc.)

Hint:

bool operator < (const Distance& d) {

         if(feet < d.feet) {

            return true;

         }

1. Overload ‘+’ operator using the following code:

Complex operator + (Complex const &obj) {

Complex c;

c.real = real + obj.real;

c.imag = imag + obj.imag;

return c;

}

1. Create a class Time with three private variables int h,m,s; Create a function to overload ‘+’ operator to add two time variables.

int main(){

    Time t1(5,15,34),t2(9,53,58),t3;

    t3 = t1 + t2; t3.show();

}

1. Write a program for operator overloading using friend function using the following code:

class Test{

//…

public:

friend void operator - (Test &x);

};

void operator-(Test &x){

//…

}

int main(){

Test x1;

-x1;

}

1. Write a program to convert basic data type (float) to user defined data type (object).

class Test {

private: //….

public:

Test ( data\_type) { // conversion code }

};

1. Write a program to convert UDT to basic data type (float)

class Test{

public:

operator data\_type() { //Conversion code }

};

1. How will you convert one UDT to another UDT. For example conversion of polar to cartesian system.

Polar p(10,5);

Cartesian c = p;

c.show();

1. Overload ‘[]’ to check array index out of bounds problem at run time.
2. Overload ‘()’ to input arbitrary number of input arguments for an object.