National University of Computer and Emerging Sciences



**Laboratory Manual**

***(Computer Programming)***

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| Course Instructor | SarimBaig |
| Lab Instructor(s) | Ahmad Raza  WaqasManzoor |
| Section | A/B |
| Semester | Spring 2017 |
| Date | 21March 2017 |

Department of Computer Science

FAST-NU, Lahore

**Lab Manual (9)**

**(Operator Overloading)**

***Create a class as mentioned below.***

classmyClass

{

private:

int\* arr;

int currentSize;

public:

**//Default Constructor, Parameterized Constructor with current size as default argument (5)**

**//Copy Constructor**

**//Destructor**

**//Overload following Operators**

**- , =, + (to add two objects), + (to add a number in object), =, - (to Subtract two objects), + (to subtract a number from object)**

**<< , >> , ==**

};

**Note:**

The array should be allocated when needed.

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| **Assignment Operator:** |

You have to make a deep copy. Statements from a caller such as these should be valid from caller/main.

myArraya,b,c; (myArray is name of class in this line)

//statements to manipulate or add values to array

a = b = c; //make sure = operator correctly implemented so that no error is generated on this line

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| **+ Operator:** |

You have to make two overloaded versions of + operator. One that takes integer argument and one that takes an array as an input argument

myArraya,b,c;

a = a+2; //will insert 2 in the array

b = b+5+7; //this should also work

c = b+a; //here the input argument is an array. cshould have [2 5 7]

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| **- Operator (Binary):** |

Two overloaded members have to be implemented. One for integer type and one for array type. This is similar to + operator but reverse functionality.

**Example:**

myArraya,b,c;

a = a+5+8+10; //a has [5 8 10] size is 3

b = a+1; //b has [5 8 10 1] size is 4

c = b-8; //c should be [5 10 1] size is 3

c=b-1 // c should be [5 10] **size should be2**

c = b-a; //here the input argument to - operator is myArray

//c should be [1] and its size should be 1

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| **<< Operator:** |

Your implementation should make the following work:

myArray a;

a = a+5+8+10;

cout<< a;

This should output

Array Size: 3

Elements in Array:

5, 8, 10

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| **>> Operator:** |

Make sure you do not output anything on the console. Input array size and elements here The following should be possible from the caller.

myArrayuserArr;

cin>>userArr;

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| **= = Operator:** |

== will compare if two arrays have same elements or not.Your implementation should make the following work:

myArray a;

a = a+5+8+10;

myArray c;

a = c;

if (a==c)

cout<< “A and C are equal”;

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| **- Operator (unary):** |

-Operator will return new Object with all values to be reversed (- to + and + to -).

E.g,

intarr[5]={1,0,3,4,5};

myClass op(arr);

myClass op2= -op;

cout<<op2; // -1, 0, -3, -4, -5

cout<<op; // -1, 0, -3, -4, -5