

OBJECT ORIENTED CONCEPTS AND PROGRAMING
ASSIGNMENT-II
2020
MCA SEM II

Note: (1) Programs should have proper validations for the inputs
(2) Use proper variable names
(3) Programs should contain program definition as comments and
Programs should have proper Indentation

Operator Overloading

- 1) WAP to use binary operator + add two object of class Numbers having num1 and num2 as its data members and display result.
- 2) WAP to overload operator * which multiply a number to each element of an array within a class arrayContainer and display the result.
- 3) WAP to Overload the *, +, -, ==, != and = operators for the complex class.
- 4) WAP to define an object m1 of matrix class, use m1<<cout.
- 5) WAP to define a matrix class and overload the * operator to multiply a number with matrix (Example: 5*Matrix should be possible).
- 6) WAP to define a class Date with properties int month; int day; int year; overload the following operators.
 - 5.1) + operator [a+b] (a is of date type and b is an integer), use the assumption that all years all years have 360 days and months 30 days.
 - 5.2) - operator [a-b(same as above)]
 - 5.3) = operator
 - 5.4) <, <=, >, >=
 - 5.5) ++, --[post and pre both]
- 7) WAP to define a class Time with properties int hour; int minute; int second; overload the following operators.
 - 6.1) + operator [a+b] (a is of time type and b is an integer)
 - 6.2) - operator [a-b(same as above)]
 - 6.3) = operator
 - 6.4) <, <=, >, >=
 - 6.5) ++, --[post and pre both]

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- 8) Write a menu driven program that can perform the following functions on strings. (Use overloaded operators where possible).(Do not use predefined string class)
1. Compare two strings for equality (== operator)
 2. Check whether first string is smaller than the second (<= operator)
 3. Copy the string to another
 4. Extract a character from the string (Overload [])
 5. Reverse the string
 6. Concatenate two strings (+ operator)

Console I/O and Manipulators:

- 9) Design a manipulator to provide the following output specifications for printing float values
- (i) 5 column width
 - (ii) Right justified
 - (iii) 2 digits precision
 - (iv) Filling unused spaces with +
- 10) Define a class marksheet. The class should contain a function PrintMarkSheet such that it prints the marksheet of a given student with three subject names and five marks for each subject. Define manipulators for displaying headings and footnotes. The function should display marksheet with respective headings and class. The marks should be aligned under the headings (Use either ios functions or manipulators).