INDEX

Roll No. SC55 - Shreyas Chavhan

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| Sr. no | Title |  |  |  |  |
| 1 | Implement a class Complex which represents the Complex Number data type. Implement the following operations:  1. A constructor (including a default constructor which creates the complex number 0+0i).  2. Overloaded operator+ to add two complex numbers.  3. Overloaded operator\* to multiply two complex numbers.  4. Overloaded << and >> to print and read Complex Number |  |  |  |  |
| 2 | Implement a class Quadratic that represents two degree polynomials i.e.,  polynomials of type ax2+bx+c. Your class will require three data member corresponding  to a, b and c. Implement the following operations:  1.A constructor(including a default constructor which creates the 0 polynomial).  2.Overloaded operator+ to add two polynomials of degree 2.  3.Overloaded << and >> to print and read polynomials.  To do this, you will need to decide what you want your input and output format to look like.  4.A function eval that computes the value of a polynomial for a given value of x.  5.A function that computes the two solutions of the equation ax 2 +bx+c=0 |  |  |  |  |
| 3 | Write a C++ program create a calculator for an arithmetic operator (+, -, \*, /). The program  should take two operands from user and performs the operation on those two operands  depending upon the operator entered by user. Use a switch statement to select the operation.  Finally, display the result.  Some sample interaction with the program might look like this:  Enter first number, operator, second number: 10 / 3  Answer = 3.333333  Do another (y/n)? y  Enter first number, operator, second number: 12 + 100  Answer = 112  Do another (y/n)? n |  |  |  |  |
| 4 | Develop an object oriented program in C++ to create a  database of student information system containing the  following information: Name, Roll number, Class, division,  Date of Birth, Blood group, Contact address, telephone  number, driving license no. etc Construct the database with  suitable member functions for initializing and destroying the  data with constructor, default constructor, Copy constructor,  destructor, static member functions, friend class, this pointer,  inline function.Code and dynamic memory allocation  operators-new and delete. |  |  |  |  |
| 5 | Write C++ Program with base class convert declares two variables, val1  and val2, which hold the initial and converted values, respectively. It also  defines the functions getinit( ) and getconv( ), which return the initial value  and the converted value. Int Val1 = 5 Explicitly convert the int to float  These elements of convert are fixed and applicable to all derived classes that  will inherit convert. However, the function that will actually perform the  conversion, compute ( ), is a pure virtual function that must be defined by  the classes derived from convert. The specific nature of compute ( ) will be  determined by what type of conversion is taking place.  Baseclass getinit() getcnv() |  |  |  |  |
| 6 | Create employee bio-data using following classes  i) Personal record  ii))Professional record  iii) Academic record  Assume appropriate data members and member function to accept required data & print bio-data.  Create bio-data using multiple inheritance using C++. |  |  |  |  |
| 7 | Create user defined exception to check the following conditions and throw the  exception if the criterion does not meet.  a. User has age between 18 and 55.  b. User stays has income between Rs. 50,000 - Rs. 1,00,000 per month  c. User stays in Pune/Mumbai/Banglore/Chennai  d. User has 4-wheeler  Accept age, Income, City, Vehicle from the user and check for the conditions  mentioned above. If any of the condition not met then throw the expception; |  |  |  |  |
| 8 | Assignment No. 8 -  Write a menu driven program that will create a data file containing the list of  telephone numbers in the following form  John 23456  Ahmed 9876  ........................  Use a class object to store each set of data, access the file created and implement  the follwoing tasks  I. Determine the telephone number of specified person  II. Determine the name if telephone number is known  III. Update the telephone number, whenever there is a change. |  |  |  |  |
| 9 | Write a C++ program that creates an output file, writes  information on it, closes the file and open it again as an input  file and read the information from the file. |  |  |  |  |
| 10 | Write a function template selection sort. Write a program that  inputs, sorts and outputs an integer array and a float array. |  |  |  |  |
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