IOOM Assignment2

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Every class is having a default constructor, a parameterized constructor, a copy constructor and a destructor.

Q1.

Header Files- Student.h, StudentArray.h

.cpp files- Student.cpp, StudentArray.cpp, main1.cpp

Driver file- main1.cpp

Description

Student.h- This file contains the definition of class Student,which contains name,branch and roll no as data members and the required member functions.

StudentArray.h-This file contains the definition of class StudentArray, which contains an array of Student objects of size 5 and some member functions.This acts basically as the database of 5 students.

Student.cpp- This file contains the definitions of the member functions of Student class.

StudentArray.cpp- This file contains the definitions of the member functions of StudentArray class.

main1.cpp- This file demonstrates the creation of db, deletion of db and the use of overloaded operators.

How to execute?

Run **make main1** for compiling the files and then run **./main1**

Or if make dint work run g++ Student.h

then g++ StudentArray.h

then g++ main1.cpp Student.cpp StudentArray.cpp

then ./a.out

Q2.

Header Files-Polar.h

.cpp files- Polar.cpp, main2.cpp

Driver file- main2.cpp

Description

Polar.h- This file contains the definition of class Polar, which contains radius and angle as data members and the required member functions.

Polar.cpp-This file contains the definitions of the member functions of Polar class.

main2.cpp- This file demonstrates the addition of two Polar objects using the overloaded operator.

How to execute?

Run **make main2** for compiling the files and then run **./main2**

Or if make dint work run g++ Polar.h

then g++ main2.cpp Polar.cpp

then ./a.out

Q3.

Header Files- DNode.h, DoublyLinkedList.h

.cpp files- DNode.cpp, DoublyLinkedList.cpp, main3.cpp

Driver file- main3.cpp

Description

DNode.h- This file contains the definition of a template class DNode, which represents one node of the DLL, contains data and two pointers as data members.

DoublyLinkedList.h- This file contains the definition of a template class DoublyLinkedList, which contains two DNode pointers and current size as data members and the member functions required to do insertion and deletion operation in the DLL.

DNode.cpp- This file contains the definitions of the member functions of DNode class.

DoublyLinkedList.cpp- This file contains the definitions of the member functions(which throw exceptions) of DoublyLinkedList class.

main3.cpp- This file demonstrates the creation of two DLLs one of decimal(float) datatype and another of string datatype and insertion, deletion operations on them, enclosing them with the try catch blocks.

Assumption- delete option will delete all the nodes with given data(for changing it to deleting only one node, only the loop has to be removed).

How to execute?

Run **make main3** for compiling the files and then run **./main3**

Or if make dint work run g++ DNode.h

then g++ DoublyLinkedList.h

then g++ main3.cpp DNode.cpp DoublyLinkedList.cpp

then ./a.out

Q4.

Header Files- Complex.h

.cpp files- Complex.cpp, main4.cpp

Driver file- main4.cpp

Description

Complex.h- This file contains the definition of class Polar, which contains real and imaginary as data members and the required functions.

Complex.cpp- This file contains the definitions of the member functions(which throw exceptions) of Complex class.

main4.cpp- This file demonstrates the division of two Complex numbers with exception handling.

How to execute?

Run **make main4** for compiling the files and then run **./main4**

Or if make dint work run g++ Complex.h

then g++ main4.cpp Complex.cpp

then ./a.out

Lastly run **make clean** to delete the generated files.