**University Of Central Punjab**

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**Object Oriented Paradigm**

**Lab Manual (Lab 09)**

**Lab Topic:** Composition, Object as Pointer, Array of Objects

Task 1: Run the given below code and check the functionality of the composition.

|  |
| --- |
| #include <iostream>  **using** **namespace** std;    // Simple class  **class** A {  **public**:  **int** x;        // COnstructor initializing      // the data members      A() { x = 0; }        A(**int** a)      {          cout << "Constructor A(int a) is invoked" << endl;          x = a;      }  };    // Complex class  **class** B {  **int** data;      A objA;    **public**:      // COnstructor initializing the      // data members      B(**int** a)          : objA(a)      {          data = a;      }        // Function to print values      // of data members in class      // A and B  **void** display()      {          cout << "Data in object of class B = " << data               << endl;          cout << "Data in member object of "               << "class A in class B = " << objA.x;      }  };    // Driver code  **int** main()  {      // Creating object of class B      B objb(25);        // Invoking display function      objb.display();  **return** 0;  } |

**Task 2:**

Write a class employee which defines employee of a company. An employee has the following attributes

• ID

• Name

• Cell Number

• Address

And certain functions, for example

• Login

• Logout

Now, write main() with the following functionality.

1. Create array of five employees of the company.
2. Create an array of the employees and ask the user to enter the size of this array.
3. Each employee is issued a card and assigned an office.
4. The program shall then loop from 1 to 10 to ask the user if an employee has logged in today. Display a prompt to ask if employee has logged in, and take y for yes and n for no.

After collecting this information, show a report with the following information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Name | Card serial number | Office | Status |

**Task 3:**

In the previous lab, a function to calculate the maximum of two fractions was created. Redo the same task, this time the prototype of the function should be:

int Maximum(fraction\* one, fraction\* two);

Hint: If the fractions are equal, return 0. If fraction one is greater, return 1, if fraction two is greater, return 2.