**CSCP 1024 Object Oriented Paradigm**

**Lab 21**

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**Manual Contents:**

* **Polymorphism**

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**Task 1:**

class Employee {

private:

String name;

double taxRate;

public:

Employee( String&, double );

String getName();

virtual double calcSalary();}

**(Simple Payroll Application)** Develop a simple payroll application. There are three kinds of employees in the system: salaried employee, hourly employee, and commissioned employee. Write a tester to create employees of different types and calculates salary polymorphically. At the end generate a report to show all employees information.

**Task 2:**

Implement the following class hierarchy. Write a function calculateArea to calculate area of each object of any shape.

Hint: Use Polymorphism

Shape

Rectangle

Circle

Triangle

Square

**Task 3:**

**Imagine the same publishing company described in that markets both book and audiocassette versions of its works. As in that exercise, create a class called publication that stores the title (a string) and price (type float) of a publication.**

**From this class derive two classes: book, which adds a page count (type int); and tape,**

**which adds a playing time in minutes (type float). Each of the three classes should have a getdata( ) function to get its data from the user at the keyboard, and a putdata( ) function to display the data.**

**Write a main( ) program that creates an array of pointers to publication. This is similar**

**to the VIRTPERS example in this chapter. In a loop, ask the user for data about a particular book or tape, and use new to create an object of type book or tape to hold the data. Put the pointer to the object in the array. When the user has finished entering the data for all books and tapes, display the resulting data for all the books and tapes entered, using a for loop and a single statement such as**

**pubarr[j]->putdata( );**

**to display the data from each object in the array.**