

The objective of this lab is to:

Understand base class and derive class concepts.

Instructions!

1. This is a **graded** lab, you are strictly **NOT** allowed to discuss your solutions with your fellow colleagues, even not allowed asking how is he/she is doing, it may result in negative marking. You can **ONLY** discuss with your TAs or with me.
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3. Follow good coding conventions.

Task 01:

[15 Marks]

Implement a class named *Employee*. The class should keep the following information in private member variables:

- Employee name (a character array which can contain at most 50 characters)
- Employee number (an integer)
- Hire date (a character array which can contain at most 20 characters)

Implement the parameterized constructor and the appropriate getter and setter functions for the *Employee* class.

Next, implement a class named *ProductionWorker* that is derived from the *Employee* class. The *ProductionWorker* class should have member variables to hold the following information:

- Shift (an integer)
- Hourly pay rate (a double)

The workday is divided into two shifts: day and night. The shift variable will hold an integer value representing the shift that the employee works. The day shift is shift 1 and the night shift is shift 2. Implement a parameterized constructor for the *ProductionWorker* class which should take the initial values of all attributes. Also implement the appropriate getter and setter functions. Implement a function that should take number of hours worked (in a week) from user as input then compute and display monthly salary of the employee along with all other details e.g name, number, hire date, shift, pay rate etc. Demonstrate the classes by writing a program that uses a *ProductionWorker* object.

Task 02:

[10 Marks]

In a particular factory a shift supervisor is a salaried employee who supervises a shift. In addition to a salary, the shift supervisor earns a yearly bonus when his or her shift meets production goals. Design a *ShiftSupervisor* class that is derived from the *Employee* class you created in Task 01. The *ShiftSupervisor* class should have a member variable that holds the annual salary and a member variable that holds the annual production bonus that a shift supervisor has earned. Write one or more constructors and the appropriate accessor and mutator functions for the class. Demonstrate the class by writing a program that uses a *ShiftSupervisor* object.