**Lab 13** – **Inheritance**

**Question 1:**

Write a program with a mother class **animal**. Inside it define a name and an age variables, and set\_value() function. Then create two derived classes Zebra and Dolphin which write a message telling the age, the name and giving some extra information (e.g. place of origin).

**Question 2:**

Design a class named **Employee**.

* Name(string)
* Address(string)

The Employee class should keep the following information in member variables:

* Employee number(int)
* Hire date(Date) // Use parameter of Date class

Write one or more constructors and the appropriate accessor and mutator functions for the class. Next, write 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. Write one or more constructors and the appropriate accessor and mutator functions for the class by using camel case notation described in instructions.

The function of ProductionWorker is:

 double calculateSalary(Date dt)

Formula for Salary Calculation: No. of Days \* Working Hours per day \* Hourly pay rate Assume working hours per day=8

b) In this part you will extend **ProductionWorker** class:

Assume that in a particular factory, a **teamleader** is an hourly paid production worker who leads a small team. In addition to hourly pay, team leaders earn a fixed monthly bonus. Team leaders are required to attend a minimum number of hours of training per year. Design a TeamLeader class that extends the ProductionWorker class you designed above. The TeamLeader class should have member variables for the monthly bonus amount, the required number of training hours, and the number of training hours that the team leader has attended. Write one or more constructors and the appropriate accessor and mutator functions for the class and a function to calculate salary.

● double calculateSalary(Date dt)

You will receive a date object and from that date object you will calculate the no of days he/she worked in that particular month; you may assume team leader works 8 hours a day. Add monthly bonus according to days. Create a main function and call the methods of every class.