WIX1002 Fundamentals of Programming
Semester 1 2015/2016
Tutorial 10 Polymorphism

1. Create an abstract class DiscountPolicy. It has a single abstract method computeDiscount that return the discount for the purchase of a given number of item. The method has two parameters count and itemCost. Derived a class BulkDiscount from DiscountPolicy. It has a constructor that has two parameters minimum and discount rate. It has a method computeDiscount that compute the discount base on discount rate if the number of item more than minimum. Otherwise, no discount given. Derived a class OtherDiscount that compute the discount base on the table below

N (number of Item)	1 – 2	3 – 5	6 – 8	>8
Discount	0	10%	20%	30%

   Derived a class combineDiscount from DiscountPolicy. It has two parameters of type DiscountPolicy It has a method computeDiscount that return the maximum value returned by the computeDiscount for the two discount policies. Create a Tester class to test the program.

2. Create an interface Interest that has a single method computeInterest that return the monthly interest based on the balance in the account. Create the SavingAccount that implement the interface, the class has an instance variable called balance. Define the method to compute interest. The interest rate for saving account is 0.5% per year. Create the FixedAccount that implement the interface. The class has an instance variable called balance. Define the method to compute interest. The interest rate for saving account is 3% per year. Create a Tester class to test the program.

3. Create a class Person that implements the comparable interface. The class has an instance variable name. The class has the constructor that initializes the name. The class also has the accessor method and a display method to display the name. Create an array for multiple Person objects. Sort the person in ascending order. Create a Tester class to test the program.