

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

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

- 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 an abstract class `'Shape'` with one attributed named `'area'` of double type.
- Write proper setter and getter for the attributes
 - Three abstract methods namely `'RectangleArea'` taking two parameters, `'SquareArea'` and `'CircleArea'` taking one parameter each.
 - The parameters of `'RectangleArea'` are its length and breadth, that of `'SquareArea'` is its side and that of `'CircleArea'` is its radius.
 - Now create another class `'Area'` containing all the three methods `'RectangleArea'`, `'SquareArea'` and `'CircleArea'` for calculating the area of rectangle, square and circle respectively.
 - Create an `ArrayList` of `Shape` type. Your `main ()` method must display the following first:

Press (1) for calculating Rectangle Area

Press (2) for calculating Square Area

Press (3) for calculating Circle Area

- You must create at least 3 shape type reference variable and assign area type object to them in this manner
- Call the respective method for all three objects and display the area