1. Write an Account class as an abstract class and write a main method in a different class to briefly experiment with some instances of the Account class.

* Using the Account class as a base class, write two derived classes called SavingsAccount and CurrentAccount.
* A SavingsAccount object, in addition to the attributes of an Account object, should have an interest variable and a method which adds interest to the account.
* A CurrentAccount object, in addition to the attributes of an Account object, should have an overdraft limit variable.
* Ensure that you have overridden methods of the Account class as necessary in both derived classes.
* Now create a Bank class, an object of which contains an array of Account objects.
* Accounts in the array could be instances of the Account class, the SavingsAccount class, or the CurrentAccount class. Create some test accounts (some of each type).
* Write an update method in the bank class. It iterates through each account, updating it in the following ways: Savings accounts get interest added (via the method you already wrote); CurrentAccounts get a letter sent if they are in overdraft.
* The Bank class requires methods for opening and closing accounts, and for paying a dividend into each account.

**Hints:**

* Note that the balance of an account may only be modified through the deposit(double) and withdraw(double) methods.
* The Account class should not need to be modified at all.
* Be sure to test what you have done after each step.

1. Create a class called Employee whose objects are records for an employee. This class will be a derived class of the class Person . An employee record has an employee's name (inherited from the class Person), an annual salary represented as a single value of type double, a year the employee started work as a single value of type int and a national insurance number, which is a value of type String.  
     
   Your class should have a reasonable number of constructors and accessor methods, as well as an equals method. Write another class containing a main method to fully test your class definition.

The Person class

public class Person

{

private String name;

public Person()

{

name = "No name yet.";

}

public Person(String n)

{

name = n;

}

public void setName(String newName)

{

name = newName;

}

public String getName()

{

return name;

}

public void print()

{

System.out.println("Name: " + name);

}

public boolean equals(Object p)

{

return name.equals(p.name);

}

}