

Account

```
package Program02.Class;

import java.util.ArrayList;
import java.util.Date;

public class Account{
    private String name;
    private String id;
    private double balance;
    private double annualInterestRate;
    private Date dateCreated;
    private ArrayList<Transaction>transactions;

    public Account(){
        this("Unknow","0000",0);
        transactions=new ArrayList<Transaction>();
        dateCreated = new Date();
    }
    public Account(String name,String id ,double balance){
        dateCreated = new Date();
        transactions=new ArrayList<Transaction>();
        this.name = name;
        this.id = id;
        this.balance = balance;
    }
    public String getId(){
        return this.id;
    }
    public double getBalance(){
        return this.balance;
    }
    public double getAnnualInterestRate(){
        return this.annualInterestRate;
    }
    public Date getDateCreated(){
        return this.dateCreated;
    }
    public double setAnnualInterestRate(double annualInterestRate){
        this.annualInterestRate = annualInterestRate;
        return this.annualInterestRate;
    }
    public double getMonthlyInterestRate(){
        double monthlyInterestRate = this.annualInterestRate / 12;
        return monthlyInterestRate/100;
    }
    public double getMonthlyInterest(){
        double monthlyInterest = (getMonthlyInterestRate()*this.balance);
    }
}
```

```

        return monthlyInterest;
    }
    public void withdraw(double amount,String description){
        this.balance -=amount;
        transactions.add(new Transaction('W',amount,balance,description));
    }
    public void deposit(double amount,String description){
        this.balance += amount;
        this.transactions.add(new
Transaction('D',amount,balance,description));
    }
    public String getName() {
        return name;
    }
    public void displayTransaction(){
        System.out.println("Name : " + name);
        System.out.println("Acount ID : " + id);
        System.out.println("Annual Interestrate :" + annualInterestRate);
        System.out.println("Balance : " + balance);
        System.out.printf("Date\t\t\t\t\tType\tAmount\tBalance\t\n");
        for(int i = 0 ; i < transactions.size() ; i++){
            System.out.printf(transactions.get(i).getDate()+"\t"+transactions.
get(i).getType()+"\t"+transactions.get(i).getAmount()+"\t"+transactions.get(i)
.getBalance()+"\t\n");
        }
    }
}
}

```

Transaction

```
package Program02.Class;

import java.util.Date;

public class Transaction{
    private Date date;
    private char type;
    private double amount;
    private double balance;
    private String description;

    Transaction(){

    }

    public Transaction(char type, double amount, double balance, String
description) {
        date = new Date();
        this.type = type;
        this.amount = amount;
        this.balance = balance;
        this.description = description;
    }

    public Date getDate() {
        return date;
    }

    public char getType() {
        return type;
    }

    public double getAmount() {
        return amount;
    }

    public double getBalance() {
        return balance;
    }

    public String getDescription() {
        return description;
    }
}
```

Main

```
package Program02.Main;

import Program02.Class.*;

public class Main {
    public static void main(String[] args) {
        Account a = new Account("George","1122",1000);
        a.setAnnualInterestRate(1.5);
        a.deposit(30, "");
        a.deposit(40, "");
        a.deposit(50, "");
        a.withdraw(5, "");
        a.withdraw(4, "");
        a.withdraw(2, "");
        a.displayTransaction();
    }
}
```