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Assignment - 1

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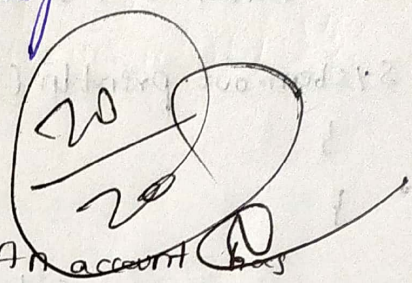
Code:- CSA0914



① Implement a class Account. An account has
- ⇒ a balance
- ⇒ functions to add
- ⇒ and withdraw money,
- ⇒ And a function to inquire the current balance.

Condition:-

① Pass a value into a constructor to set an initial balance.

② If no value is passed the inetial balance should be set to $0.

③ Charge a $5 penalty if an attempt is made to withdraw more money than available in the account

④ Enhance the Account class to compute interest on the current balance.

Sol:-

```
class Account {

    double balance;

    Account (double initialBalance){

        balance = initialBalance;
    }

    Account () {

        balance = 0;
    }
```

```
void deposit(double amount) {
    if (amount > 0) {
    balance += amount;
System.out.println("Amount deposited: $" + amount);
  }
 }
void withdraw(double amount){
    if (amount <= balance) {
     balance -= amount;
System.out.println("Amount withdrawn: $" + amount);
  }
 else {
   balance = 5;
System.out.print ("Insufficient balance $5 penalty charged
  }
 }
void checkBalance() {
   System.out.println("Current balance: $" + balance);
   }
```

2000
100

```
void addInterest(double rate){
     double interest = balance * rate / 100;
      balance += interest;
    System.out.println("Interest added: $" + interest);
   }
  }
public class main {
public static void main(String[] args) {
```

```
Account acc1 = new Account(100);
    acc1.deposit(50);
    acc1.withdraw(30);
    acc1.withdraw(200);
    acc1.addInterest(10);
    acc1.checkBalance();
Account acc2 = new Account();
    acc2.checkBalance();
  }
}
```

(2) Write a class called Triangle that can be used to represent a triangle. It should include the following methods that return Boolean values indicating if the particular property holds:

=) isRight (a right triangle)
=) isScalene (no two sides are the same length)
=) isIsosceles (exactly two sides are the same length)
=) isEquilateral (all three sides are the same length)

Sol :-

```
class Triangle {
    double a,b,c;
Triangle (double side1, double side2, double side3) {
    a = side1;
    b = side2;
    c = side3;
}
boolean isRight() {
    return (a*a + b*b == c*c) ||
```

```
(a*a+c*c==b*b)||
(b*b+c*c==a*a);
}
boolean isScalene(){
return (a!=b && b!=c && a!=c);
}
boolean isIsosceles(){
return ((a==b && a!=c)|| (a==c && a!=b)||
(b==c && b!=a));
}
boolean isEquilateral(){
return (a==b && b==c);
}
}
Public class main{
public static void main(String args[]){
Triangle t= new Triangle(3,4,5);
System.out.println("Is Right Triangle?"+t.isRight());
System.out.println("Is Scalene?"+t.isScalene());
System.out.println("Is Isosceles?"+t.isIsosceles());
System.out.println("Is Equilateral?"+t.isEquilateral());
}
}
```