Roll No- 220350320054
Full Name- Rashmi Sunil Khandekar
PG-DAC March 2022
Object Oriented Programming with java

```
import java.util.Scanner;
public class Main {



	public static void main(String[] args) {
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter Balance");
		double  b=sc.nextDouble();
		System.out.println("Enter Annual Interest Rate");
		double i=sc.nextDouble();
	SavingsAccount ba=new SavingsAccount( b, i);
 SavingsAccount sa;
   System.out.println("Balance after adding Interest  " +ba.calcInterest());
   System.out.println("Enter Amout to Withdraw");
   double amount=sc.nextDouble();
ba.withdraw(amount);//ba.getBalance
   System.out.println("Balance after Withdraw  " +ba.getBalance());
   ba.deposit(250);

   System.out.println("Balance after Deposite  " +ba.getBalance());
   System.out.println("No of Deposites  " + ba.getDeposits());
   System.out.println("No of withdraws  " +ba.getWithdraws());
   System.out.println("is Account Active  " +ba.isActive());
   System.out.println("Monthly charges  " +ba.getservicecharge());
	}

}
```

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```
import java.util.Scanner;
public abstract class BankAccount
{
 double balance;
 int numOfDeposits=0;
 int numOfWithdraws=0;
 double interestRate;
 double annualInterest;
 double monSCharges;
 double amount;
 double monInterest;

 //constructor accepts arguments for balance and annual interest rate
 public BankAccount(double balance, double annualInterest)
 {
  this.balance = balance;
  this.annualInterest = annualInterest;
 }

 //sets amount
  public void setAmount(double myAmount)
  {
      amount = myAmount;
  }

 //method to add to balance and increment number of deposits
 public void deposit(double amountIn)
 {
  balance = balance + amountIn;
```

```
   numOfDeposits++;
  }

  //method to negate from balance and increment number of withdrawals
  public void withdraw(double amount)
  {balance = balance - amount;
   numOfWithdraws++;
              Scanner sc=new Scanner(System.in);

  System.out.println("If you want to withdraw again press 1 or press 0 to exit");
  int n=sc.nextInt();
  System.out.println("Enter Amout to Withdraw");
  amount=sc.nextDouble();
do
  {

             balance = balance - amount;
    numOfWithdraws++;
   //System.out.println("Balance after Withdraw  " +getBalance());
   break;
  } while(n!=0);



  }

  //updates balance by calculating monthly interest earned
  public double calcInterest()
  {
    double monRate;
```

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```
  monRate= (annualInterest / 12);
  monInterest = (balance * monRate);
   balance = balance + monInterest;
  return balance;
}

//subtracts services charges calls calcInterest method sets number of withdrawals and deposits
//and service charges to 0
public void monthlyProcess()
{
  calcInterest();
  numOfWithdraws = 0;
  numOfDeposits = 0;
  monSCharges = 0;
}

//returns balance
public double getBalance()
{
  return balance;
}

//returns deposits
public double getDeposits()
{
  return numOfDeposits;
}
```

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```
 //returns withdrawals
 public double getWithdraws()
 {
  return numOfWithdraws;
 }
 public double getservicecharge() {
            return monSCharges;
 }
}
public class SavingsAccount extends BankAccount
{
 //sends balance and interest rate to BankAccount constructor
 public SavingsAccount(double b, double i)
 {
  super(b, i);
 }

 //determines if account is active or inactive based on a min acount balance of $25
 public boolean isActive()
 {
  if (balance >= 250)
    return true;
  else
  return false;
 }

 //checks if account is active, if it is it uses the superclass version of the method
 public void withdraw()
 {
```

```
   if(isActive() == true)
   {
     super.withdraw(amount);
   }
 }

 //checks if account is active, if it is it uses the superclass version of deposit method
 public void deposit()
 {
   if(isActive() == true)
   {
     super.deposit(amount);
   }
 }

 //checks number of withdrawals adds service charge
 public void monthlyProcess()
 {
   if(numOfWithdraws > 4)
     monSCharges++;
 }
}
```

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Output –