64010312

```java
public class Pro1 {
    public static void main(String[] args) {
        Account ac = new Account();
        CheckingAccount ch = new CheckingAccount(1,5000,5000);
        SavingAccount sa = new SavingAccount();
        System.out.println(ch);
        System.out.println("Withdraw: 10000.00");
        ch.withdraw(10000);
        System.out.println("Balance is " + ch.getBalance());
        System.out.println(sa);
        System.out.println("This account  was created at "+ac.getDateCreated());
    }
}
```

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```java
import java.util.Date;
public class Account {
    private int id;
    private double balance;
    private double annualInterestRate;
    private Date dateCreated  = new Date();
    public Account(){
    }
    public Account(int id,double balance){
        this.id = id;
        this.balance = balance;
    }
    public double getMonthlyInterestRate(){
        return annualInterestRate/12;
    }
    public double getMonthlyInterest(){
        return  balance * getMonthlyInterestRate()/100;
    }
    public void withdraw(double amount){
        balance -= amount;
    }
    public void deposit(double amount){
        balance += amount;
    }
    public int getId() {//accessor(get)
        return id;
    }
    public void setId(int id) {//mutator(set)
        this.id = id;
    }
    public double getBalance() {
        return balance;
    }
    public void setBalance(double balance) {
        this.balance = balance;
    }
    public double getAnnualInterestRate() {
        return annualInterestRate;
    }
    public void setAnnualInterestRate(double annualInterestRate) {
        this.annualInterestRate = annualInterestRate;
    }
    public Date getDateCreated() {
        return dateCreated;
    }
}
```

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```java
public class CheckingAccount extends Account {
    private double overdraftLimit;

    public CheckingAccount() {
    }

    public CheckingAccount(int id, double balance) {
        super(id, balance);
        this.overdraftLimit = 0;
    }

    public CheckingAccount(int id, double balance, double overdraftLimit) {
        super(id, balance);
        this.overdraftLimit = overdraftLimit;
    }

    @Override
    public void withdraw(double amount) {
        if (getBalance() + overdraftLimit >= amount) {
            super.withdraw(amount);
        } else {
            System.out.println("Balance is not enough");
        }
    }

    public double getOverdraftLimit() {
        return this.overdraftLimit;
    }

    public void setOverdraftLimit(double overdraftLimit) {
        this.overdraftLimit = overdraftLimit;
    }

    @Override
    public String toString() {
        return "Checking Account---\nOverdraft Limit :
"+this.overdraftLimit+"\nBalance is " + getBalance();
    }
}
```

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```java
public class SavingAccount extends Account{
    private double overdraftLimit;
    public SavingAccount(){
    }
    public SavingAccount(int id,double balance){
        super(id,balance);
    }
    public double getOverdraftLimit() {
        return this.overdraftLimit;
    }
    @Override
    public void withdraw(double amount) {
        if ( getBalance()+ overdraftLimit >= amount) {
            super.withdraw(amount);
        }
        else{
            System.out.println("Balance is not enough");
        }
    }

    @Override
    public String toString() {
        return "Saving Account---\nBalance is " + getBalance();
    }

}
```