RechargeBO:

```
package com.spring.bo;


import org.springframework.context.ApplicationContext;

import com.spring.exception.InvalidRechargePackException;

import org.springframework.context.support.ClassPathXmlApplicationContext;


import com.spring.model.Recharge;


public class RechargeBO {


	public double processRecharge(Recharge recharge) throws
InvalidRechargePackException {


		double amount = 0;


		if
(recharge.getRechargePlan().getRechargePlans().keySet().contains(recharge.getRechargeAm
ount())) {

			amount = recharge.getRechargeAmount() *
recharge.getCashBackPercent() / 100;

		}


		if (amount == 0)

			throw new InvalidRechargePackException("Invalid Recharge Plan");


		return amount;

	}

}
```

InvalidRechargePackException:

```
package com.spring.exception;

public class InvalidRechargePackException extends Exception {
	private String msg;

	public InvalidRechargePackException(String msg) {
		this.setMsg(msg);
	}

	public String getMsg() {
		return msg;
	}

	public void setMsg(String msg) {
		this.msg = msg;
	}
}
```

Driver(main):

```
package com.spring.main;

import java.util.Scanner;

import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

import com.spring.exception.InvalidRechargePackException;
import com.spring.model.Recharge;
import com.spring.service.RechargeService;
```

```
public class Driver {

	public static void main(String[] args) {

		Scanner sc = new Scanner(System.in);
		ApplicationContext context = new
ClassPathXmlApplicationContext("beans.xml");
		RechargeService mainObj = (RechargeService)
context.getBean("RechargeService");

		System.out.println("Enter the Recharge Id:");
		String id = sc.nextLine();

		System.out.println("Enter the Operator:");
		String operator = sc.nextLine();

		System.out.println("Enter the Customer PhoneNumber:");
		Long number = Long.parseLong(sc.nextLine());

		System.out.println("Enter the Recharge Amount:");
		Double amount = Double.parseDouble(sc.nextLine());

		try {
			double cashBack = mainObj.processRecharge(id, operator, number,
amount);
			System.out.println("Recharge of " + amount + " is successful. You got
a cash back of RS:" + cashBack);
		} catch (InvalidRechargePackException e) {
			System.out.println(e.getMsg());
		}
```

```
	}

}
```

Recharge:

```
package com.spring.model;

//pojo class with required attributes,getters and setters
public class Recharge {

	private String rechargeId;
	private long phoneNumber;
	private double rechargeAmount;
	private RechargePlan rechargePlan;
   private int cashBackPercent;
	public int getCashBackPercent() {
		return cashBackPercent;
	}

	public void setCashBackPercent(int cashBackPercent) {

		this.cashBackPercent = cashBackPercent;
	}

	public String getRechargeId() {
		return rechargeId;
	}

	public void setRechargeId(String rechargeId) {
		this.rechargeId = rechargeId;
```

```
	}

	public RechargePlan getRechargePlan() {
		return rechargePlan;
	}

	public void setRechargePlan(RechargePlan rechargePlan) {
		this.rechargePlan = rechargePlan;
	}

	public long getPhoneNumber() {
		return phoneNumber;
	}

	public void setPhoneNumber(long phoneNumber) {
		this.phoneNumber = phoneNumber;
	}


	public double getRechargeAmount() {
		return rechargeAmount;
	}

	public void setRechargeAmount(double rechargeAmount) {
		this.rechargeAmount = rechargeAmount;
	}


}
```

RechargePlan:

```
package com.spring.model;



import java.util.Map;

//pojo class with required attributes,getters and setters

public class RechargePlan {

private String operator;
private  Map<Double, String> rechargePlans;

public Map<Double, String> getRechargePlans() {
	return rechargePlans;
}

public void setRechargePlans(Map<Double, String> rechargePlans) {
	this.rechargePlans = rechargePlans;
}
public String getOperator() {
	return operator;
}
public void setOperator(String operator) {
	this.operator = operator;
}



}
```

RechargeService:

```
package com.spring.service;

import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

import com.spring.bo.RechargeBO;
import com.spring.exception.InvalidRechargePackException;
import com.spring.model.Recharge;

public class RechargeService {

	private RechargeBO rechargeBO;

	public RechargeBO getRechargeBO() {
		return rechargeBO;
	}

	public void setRechargeBO(RechargeBO rechargeBO) throws
InvalidRechargePackException {
		this.rechargeBO = rechargeBO;
	}

	public double processRecharge(String rechargeId, String operator, long
phoneNumber, double rechargeAmount) throws InvalidRechargePackException{
		double amount = 0;

		ApplicationContext context = new
ClassPathXmlApplicationContext("beans.xml");
```

```
                Recharge r = (Recharge) context.getBean("rechargeBean");
                r.setPhoneNumber(phoneNumber);
                r.setRechargeAmount(rechargeAmount);
                r.setRechargeId(rechargeId);
                amount = rechargeBO.processRecharge(r);

                return amount;

        }
}
```