

Spring JDBC-Template Hands On Billing Software Application

Important Instructions:

- Please read the document thoroughly before you code.
- Import the given skeleton code into your Eclipse.
- Do not change the Skeleton code or the package structure, method names, variable names, return types, exception clauses, access specifiers etc.
- You can create any number of private methods inside the given class.
- You can test your code by running main() method of the program
- Using **Spring Maven** to develop the application

General Design Constraints:

- Ensure that all the Java Coding Standards are followed.
- Assume that the method inputs are valid always, hence exceptional blocks are not needed to be included in the development.

Problem Statement:

A TakeHome company requires billing software for its super market where different types of products are sold to the customers on retail basis.

This billing software should help

- a. The cashier to see the product information by entering the product code
- b. Calculate the total cost for each product based on the quantity
- c. Display the final bill to user
- d. Throw exception for invalid details

Skeleton File for Development:

Import the below attached skeleton code into your eclipse project and implement the required functionalities

Technical Requirements:

Requirement 1:Database design

Use createScripts.sql file for the database requirement



createScripts.sql

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Requirement 2:Bean class

Create a Product bean class(com.cts.bean) with following members.

	Variable Name	Data type
	product_code	Int
	product_name	String
	product_category	String
	product_description	String
	product_price	double

Requirement 3:DAOInterface

Write a ProductDao interface (com.cts.dao) with following members.

	Interface Name	Method Name	Input Parameters	Output Parameters
	ProductDao	getProductDetails();	Int product_code	Product

Requirement 4:DAO class implantation

Write a ProductDaoImpl class (com.cts.dao) which implements ProductDao interface with following members.

	Class Name	Method Name	Input Parameters	Output Parameters	Logic
	ProductDaoImpl	getProductDetails	Int product_code	Product	Query to DB select a product by product_code using jdbcTemplt.queryForObject() method and return the object.

Requirement 5:Service class Impl

Write a ProductService class (com.cts.service) which has following members.

Class Name	Method Name	Input Parameters	Output Parameters	Logic
ProductService	getProductDetails	Int product_code	Product	Invoke the ProductDao getProductDetails() return the object.
ProductService	calculatePrice()	Int quantity,double product_price	double	Use quantity and price calculate the total amount and return the value.
ProductService	validateProductCode()	Int product_code	boolean	Check product_code should be >0 and 4 digit number return true else return false
ProductService	validateQuantity()	int quantity	boolean	Check quantity should be >0 return true else return false

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Requirement 6:Exception Class

Write a BillingException class (com.cts.service) which extends Exception class raise the exception as per the requirement.

Requirement 7:MainClass

In main method class to test your application. Use switch case to perform as per requirement.

Note: Throw exception called **BillingException** with appropriate error message for the following cases and get input until user enters the valid information

- Quantity should not be lesser than or equal to zero otherwise raise the exception
- Product code should be 4 digit positive number otherwise raise the exception

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SAMPLE INPUT and OUTPUT

```
1. Generate Bill by entering code and quantity
2. Exit
1
Enter product_code
Invalid product_code, it should be >0 and 4 digit +ve number
896
Invalid product_code, it should be >0 and 4 digit +ve number
Enter product_code
-75
Invalid product_code, it should be >0 and 4 digit +ve number
Enter product_code
0
Invalid product_code, it should be >0 and 4 digit +ve number
Enter product_code
1002
Enter quantity
-9
Enter quantity
Invalid quantity, it should be >0
0
Invalid quantity, it should be >0
Enter quantity
2
Product Name: LEDTV
Product Category: electronics
Product Description: TV
Product Price(Rs): 45000.0
Quantity: 2
Total Bill Amount: Rs.90000.0
```

```
1. Generate Bill by entering code and quantity
2. Exit
3
Enter option 1 to 2 only
```
