Spring MVC Hands On – Bakingo Cake Service

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 SpringBoot MVC 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.

Time: 2 hours

Assessment Coverage:

- **Spring MVC and Hibernate/JSR validations**

"A party without any cake is just a meeting" is a popular saying. No celebration is complete without a piece of cake. It brings happiness is the best reminder of all the joys of life. Want to have the cake and eat it too?

So Client decide to provide service to customer, client need web application (Bakingo Cake Service) to allow customer can place the order. Using this application now customer can treat themself and their loved ones to instant happiness with just a click.

The customer provides the order details that should be stored into a collection and customer can view the status of the order status along with the bill amount.

The Bakingo Cake Service web application aims at the following features

1. Place the order by providing order details.
2. View the order status along with bill amount after successful order.

Skeleton File for Development:

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

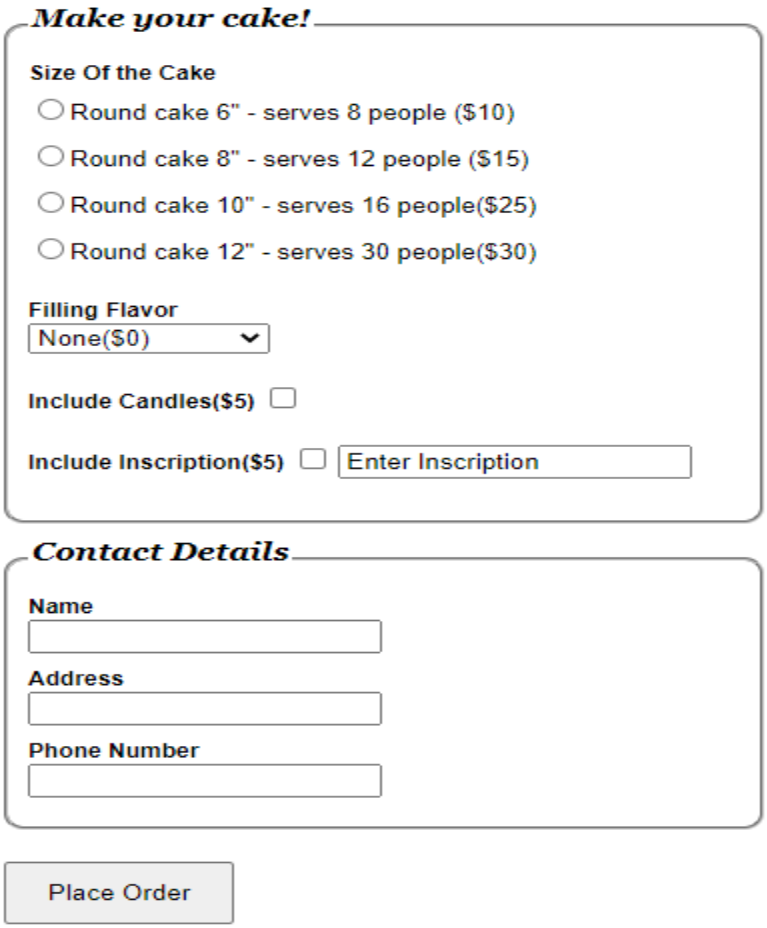
Data Design

This project currently does not connect with the DB server and therefore uses the in-memory storage using java collections (HashMap) to perform read/write operations related to the scope of the application.

Component Design

Component name: **src/main/webapp/WEB-INF/views/placeOrder.jsp**

Description: **Description**: This JSP is used by the user to place the order. The URL for this page is /showCakeOrderForm which has to be launched from the browser's address bar which means that it is a HTTP GET request. The page looks something similar to the image shown below.



All the labels are already created as per the above page and css styles already added. The following table provides the input component information about the above image. You should include only input components to the page.

Field Name	Field Type	Component ID	Description
Form	<form>	form(should be name and not id)	Already provided.
selectedcake	radiobutton	selectedcake1 selectedcake2	Create 4 radiobuttons with path name

		selectedcake3 selectedcake4	selectedcake but id and value should different. Value mention as per label instruction 10, 15, 25 and 30 respectively.
flavor	Drop down	flavor	This field lists the entire filling flavor types into drop down list. User can select their flavor types from the dropdown list.
includecandles	Checkbox	includecandles	This is checkbox field value should be 5.
includeinscription	Checkbox	includeinscription	This is checkbox field value should be 5.
theinscription	Textbox	theinscription	This field holds the Wishes message
name	Textbox	name	This field holds the customer name
address	Textbox	address	This field holds the customer address
phoneNumber	Textbox	phoneNumber	This field holds the phone number
Pleace Order	Submit	submit	When this button is clicked, the URL that has to be executed is **/orderStatus** which is the declared in the **action** attribute of <**form>** tag. The type of the http method is GET. This URL has to be mapped to **getOrderStatus(@Valid @ModelAttribute("cake") Cake cake,BindingResult result,ModelMap map)** method of the **CakeController** class

- **Note:** The values in the Filling Flavor drop-down must be auto populated from the controller with the values as given in the below table. They should **not be** populated/hardcoded inside the JSP.

Filling Flavor type
None($0)
Custard($5)
Raspberry($10)
Pineapple($5)
Cherry($6)
Apricot($8)
Buttercream($7)
Chocolate($10)

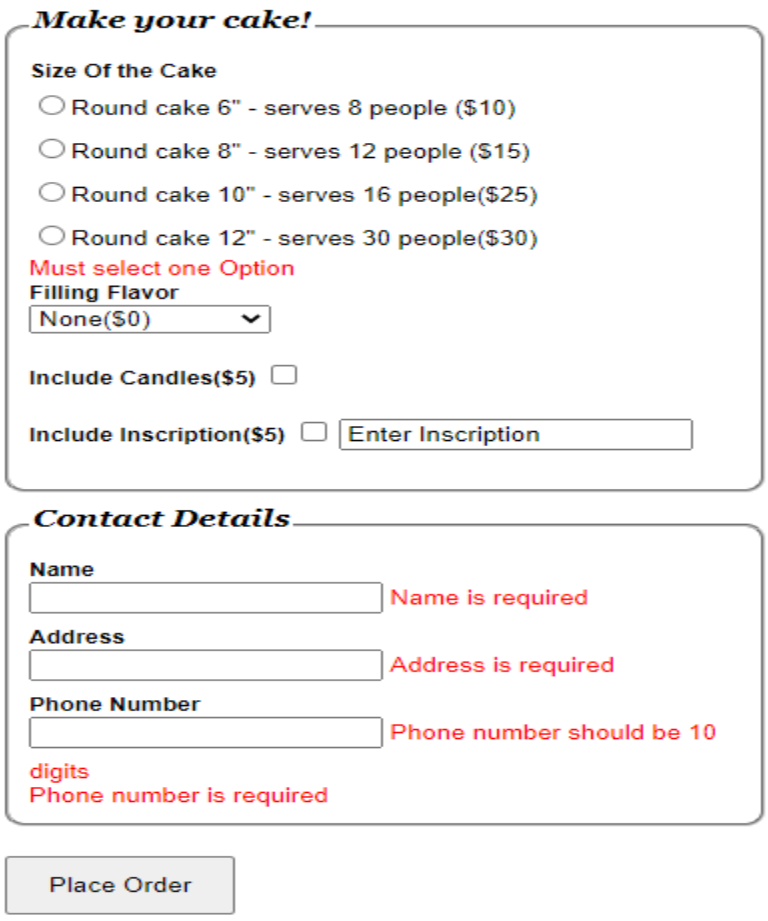
Component Name: **src/main/webapp/WEB-INF/views/orderStatus.jsp**

Description: This page displays order confirmation status, when all the details entered are added to collection successfully, it should print the message following message .It should print the message in h2 tag. And h2 tag id should be “status”

Your order has been successfully placed,
Order Id is: 1001
Order Date: Wed Jun 10 20:51:18 IST 2020
Amount in dollar: $35.0
Amount in Rupees: Rs.2625.0

Business Validation for Component

Rule	Error Message (If validation fails)
Name field is mandatory	Name is required
phoneNumber	Phone number should be 10 digits
phoneNumber field is mandatory	Phone number is required
Address field is mandatory	Address is required
Selectedcake(use NotNull annotation)	Must select one Option



Technical Requirements:

Class name: Cake

Package: com.capgemini.bakingo.bean

The Cake is a model class and is used to contain the details of the Cake

Attributes	Method
selectedcake: Integer flavor: String flavorRate: Integer includeCandles: Integer includeinscription: Integer theinscription: String name: String phonenumber: String price: double	getter/setter

Class name: CakeService is a service class containing following members
Package: com.capgemini.bakingo.service

In this class constructor adds the data into flavorType attribute. The following table provides flaovor type and rate value information here.

Filling Flavor type	Rate Value
None($0)	0
Custard($5)	5
Raspberry($10	10
Pineapple($5)	5
Cherry($6)	6
Apricot($8)	8
Buttercream($7)	7
Chocolate($10)	10

variable Name	Data type	Responsibilities
orderList	Map<Integer,Cake>	This static attribute initialize with new HashMap()
flavorList	Map<String,Integer>	This static attribute initialize with new LinkedHashMap()
orderId	int	This is static attribute initialize with 1000

This class provides addOrder method which is used add the data into in the collection.

Method Name	Input Parameters	Output Parameters	Description
addOrder	cake:Cake	int	This method pre increment orderId. Add the cake Object into orderList and return the orderId.

Class name: CakeController is a controller class.
Package: com.capgemini.bakingocontroller
This class provides the methods for processing various kinds of HTTP requests such as displaying a showCakeOrderForm where user can input the. This class also provides the request processing methods for getOrderStatus and displaying the order status.

UserController			
Attribute Name	**Attribute Type**	**Access Specifier**	**Constraints**
cakeService	CakeService class	Private	Use annotation to autowire

Method Name	**Method Argument name: type**	**Return type**	**RequestMapping URL & request method**	**Description**
showCakeOrderForm	@ModelAttribute("cake") Cake cake	String	/showCakeOrderForm & GET	This method shows Place Order in the browser.
getOrderStatus	@Valid @ModelAttribute("cake") Cake cake,BindingResult result,ModelMap map	String	/ orderStatus & GET	**Description added below of the table**
flavorList		Set<String>	Should be annotated with ModelAttribute with name "flavorList"	Using cakeService. cakeService.flavorList get All Key values and add to the flavorList return the flavorList set

Description for getOrderStatus() method:
This method receives cake object as parameter.
Return page "placeOrder" if it has any errors.
Otherwise if the flavor type is present in cakeService.falvorList, get the falvoutRate and set into the local integer variable flavorRate then calculate price value using below formula.
Double price= getSelectedcake value+flavorRate+ getIncludeCandles value +getIncludeinscription values;
Then cake.setPrice(price) value;
Calculate indian rupees value using below formula,

```
double indianPrice=cake.getPrice()*75.0;
```

then invoke the cake service addOrder method with cake object assign the return value to local orderId variable.
add the following Object values into map object.
"cake","indianPrice" and "orderId"
Check orderId>=1000 return page name is "orderStatus" else return page name "placeOrder".

Application (the main class to launch the application)

This class is used to launch the application as a spring boot application.

src/main/resources/application.properties(the spring configuration file)

This file is used to configure various properties such as **prefix** and **suffix** of view resolvers, server port etc. so, please declare all the properties as required by the application in this file.