

**ASSESSMENT INSTRUCTIONS**    **PROJECT INSTRUCTIONS**    **PROBLEM STATEMENT**

This method receives an object of FranchiseeDPO and calls the respective methods to validate the values and throws an object of FranchiseeAllocationException with the message, based on the violation, as given below,

Violation for	Message
quotedPrice	FranchiseeValidator.INVALID_QUOTEDPRICE
startupDate	FranchiseeValidator.INVALID_DATE
taxNumber	FranchiseeValidator.INVALID_TAXNO

**2. Boolean isValidQuotedPrice(Double quotedPrice)**

- This method is to validate the **quotedPrice** given by the franchisee owner
- **quotedPrice** should be minimum 1,000,000
- If the above condition fails return false, else return true

**3. Boolean isValidDates(LocalDate registrationDate, LocalDate startupDate)**

- This method validates the **startupDate** of the franchisee
- **startupDate** should be on or after **registrationDate** but within 6 months from **registrationDate**
- If the above condition fails return false, else return true

**4. Boolean isValidTaxNo(String taxNumber)**

- This method validates the **taxNumber** of the franchisee
- **taxNumber** should be of the following format:  
`<<FirstPart>>-<<SecondPart>>-<<ThirdPart>>-<<FourthPart>>-<<FifthPart>>`
  - The `<<FirstPart>>` must be a two-digit number
  - The `<<SecondPart>>` must only contain uppercase alphabets and it should be of length 8
  - The `<<ThirdPart>>` must be a number (of length at least 11)

Go to top    Execute    View R  
10:34

Screenshot (558).png

The screenshot shows a Mozilla Firefox browser window displaying a local file at `file:///home/user/Desktop/user_repo/QP/index.html`. The page content is as follows:

**ASSESSMENT INSTRUCTIONS**   **PROJECT INSTRUCTIONS**   **PROBLEM STATEMENT**

- If the above condition fails return false, else return true

**4. Boolean isValidTaxNo(String taxNum)**

- This method validates the **taxNumber** of the franchisee
- **taxNumber** should be of the following format:  
`<<FirstPart>>-<<SecondPart>>-<<ThirdPart>>-<<FourthPart>>-<<FifthPart>>`
  - The `<<FirstPart>>` must be a two-digit number
  - The `<<SecondPart>>` must only contain uppercase alphabets and it should be of length 8
  - The `<<ThirdPart>>` must be a number (of length at least 1)
  - The `<<FourthPart>>` must be the alphabet **I**
  - The `<<FifthPart>>` is a digit and it must be either **1** or **5**
  - All parts must be separated by a **hyphen(-)**
- If the above condition fails return false, else return true

**4. Repository**

**com.infy.franchiseeallocation.repository.FranchiseeRepository.java**

- This interface should extend the appropriate repository interface
- Add/modify the following two methods to the interface
  - The first method should accept the location of the franchisee and return all the franchisees present at the specified location as **List<Franchisee>**
    - The signature of this method is already provided to you as follows:  
**List<Franchisee> getFranchiseeByLocation(String location);**
    - Mark this method with appropriate annotation to implement its functionality using the **JPQL query**
  - The second method should accept the name of the franchisee and the location and return all the franchisees with the given name and present at the specified location as **List<Franchisee>**

Go to top   Execute   View Result   10:34

file:///home/user/Desktop/user\_repo/QP/index.html

#### ASSESSMENT INSTRUCTIONS PROJECT INSTRUCTIONS PROBLEM STATEMENT

#### 4. Repository

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**List<Franchisee> getFranchiseeByLocation(String location);**
    - Mark this method with appropriate annotation to implement its functionality using the **JPQL query**
  - The second method should accept the name of the franchisee and the location and return all the franchisees with the given name and present at the specified location as **List<Franchisee>**
    - Use **Query Creation based on method name approach** for this method

#### 5. Service Class

**com.infy.franchiseeallocation.service.FranchiseeServiceImpl.java**

Implement this class according to the class diagram and the description given below:

com.infy.franchiseeallocation.service.FranchiseeServiceImpl
franchiseeRepository: FranchiseeRepository
getFranchiseeReport(location: String): List<FranchiseeDTO>
allocateFranchisee(franchiseeDTO: FranchiseeDTO): FranchiseeDTO
calculateTenure(quotedPrice: Double): Double

- Inject the FranchiseeRepository object using the proper annotation
- Mark the class with the appropriate stereotype annotation with the value **franchiseeService**
- Mark this class with necessary annotation to manage transactions

Go to top Execute View Result

file:///home/user/Desktop/user\_repo/QP/index.html

ASSESSMENT INSTRUCTIONS PROJECT INSTRUCTIONS PROBLEM STATEMENT

- Mark this class with necessary annotation to manage transactions

Method Description:

1. **List<FranchiseeDTO> getFranchiseeReport(String location)**

- This method is used to get all the franchisees based on the location
- Invoke the appropriate method of the FranchiseeRepository interface which will return all the franchisees at the specified location
- If no franchisees are available, throw an object of the **FranchiseeAllocationException** with the message **FranchiseeService.FRANCHISEE\_UNAVAILABLE**
- Else, populate a list, **List<FranchiseeDTO>** with all the franchisees details in the descending order of the registration date and return the sorted list

Hint: You can use the prepareDTO() method of the FranchiseeDTO class to convert the object of Franchisee to FranchiseeDTO

2. **FranchiseeDTO allocateFranchisee(FranchiseeDTO franchiseeDTO)**

- This method is used to allocate a franchisee for the retail store and add the franchisee details to the database
- Invoke the validateFranchisee() method of the FranchiseeValidator class to validate the object of the FranchiseeDTO class
- Invoke the appropriate method of the FranchiseeRepository interface which will return all the franchisees based on the given franchisee name and the location
- If franchisee details are available, throw an object of the **FranchiseeAllocationException** with the message **FranchiseeService.FRANCHISEE\_ALREADY\_PRESENT**
- Else, invoke the **calculateTenure** method of the FranchiseeServiceImpl class which will return the

Go to top Execute View R

eclipse-workspace - FranchiseAllocation/src/main/java/com/infy/franchiseallocation/validator/FranchiseValidator.java - Eclipse IDE

```
File Edit Source Refactor Navigate Project Run Window Help
FranchiseValidator.java × Regex.java application.properties
FranchiseAllocation > src/main/java > com.infy.franchiseallocation.validator > FranchiseValidator
Jr
30  |
31  public static Boolean isValidQuotedPrice(Double quotedPrice)
32  {
33      if(quotedPrice<1000000.0)
34      {
35          return false;
36      }
37      return true;
38
39
40 }
41  public static Boolean isValidDates(LocalDate registrationDate, LocalDate startUpDate)
42  {
43      if(startUpDate.isBefore(registrationDate)||startUpDate.isAfter(registrationDate.plusMonths(6)))
44      {
45          return false;
46      }
47      return true;
48 // -----OTHER WAY-----
49 //    if(startUpDate.isEqual(registrationDate))
50 //    {
51 //        return true;
52 //    }
53 //    else
54 //        if(startUpDate.isAfter(registrationDate)||startUpDate.isBefore(registrationDate.plusMonths(6)))
55 //        {
56 //            return true;
57 //        }
58 //    return false;
59 }
60  public static Boolean isValidTaxNo(String taxNumber)
61  {
62      String regex="[0-9]{2}-[A-Z]{8}-[0-9]+-[15]";
63      //oTHERS ====>[0-9]{2}-[A-Z]{8}-[0-9]{1,}+-[1|5]
64      //|[0-9]{2}-[A-Z]{8}-[0-9]{1,}+-[1|5]
65      //|[0-9]{2}-[ ]*[A-Z]{8}-[ ]*[0-9]{1,}+-[ ]*[1|5]
66      if(taxNumber.matches(regex))
```

eclipse-workspace - FranchiseAllocation/src/main/java/com/infy/franchiseallocation/validator/FranchiseValidator.java - Eclipse IDE

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FranchiseValidator.java X Regexjava application.properties

FranchiseAllocation > src/main/java > com.infy.franchiseallocation.validator > FranchiseValidator >

```
38
39
40    }
41    public static Boolean isValidDates(LocalDate registrationDate, LocalDate startUpDate)
42    {
43        if(startUpDate.isBefore(registrationDate)||startUpDate.isAfter(registrationDate.plusMonths(6)))
44        {
45            return false;
46        }
47        return true;
48 // -----OTHER WAY-----
49 //     if(startUpDate.isEqual(registrationDate))
50 //     {
51 //         return true;
52 //     }
53 //     else
54 //     {
55 //         if(startUpDate.isAfter(registrationDate)||startUpDate.isBefore(registrationDate.plusMonths(6)))
56 //         {
57 //             return true;
58 //         }
59 //     }
60    public static Boolean isValidTaxNo(String taxNumber)
61    {
62        String regex="[0-9]{2}-[A-Z]{8}-[0-9]+-[0-9]";
63        //oTHERS =====>[0-9]{2}-[A-Z]{8}-[0-9]{1,}+-[0-9]
64        //|[0-9]{2}-[A-Z]{8}-[0-9]{1,}+-[0-9]-[1|5]
65        //|[0-9]{2}-[1|A-Z]{8}[1|][0-9]{1,}+[1|I]-[1|5)
66        if(taxNumber.matches(regex))
67        {
68            return true;
69        }
70        return false;
71    }
72}
73}
74}
```

eclipse-workspace - FranchiseAllocation/src/main/java/com/infy/franchiseallocation/service/FranchiseServiceImpl.java - Eclipse IDE

```
File Edit Source Refactor Navigate Project Run Window Help
FranchiseValidator.java Regex.java application.properties FranchiseServiceImpl.java FranchiseRepository.java FranchiseDTO.java
FranchiseAllocation > src/main/java > com.infy.franchiseallocation.service > FranchiseServiceImpl > allocateFranchise(FranchiseDTO) : FranchiseDTO
18 public class FranchiseServiceImpl implements FranchiseService {
19     @Autowired
20     private FranchiseRepository franchiseRepository;
21     @Override
22     public List<FranchiseDTO> getFranchiseReport(String location) throws FranchiseAllocationException {
23         // TODO Auto-generated method stub
24         List<Franchise> franchises= franchiseRepository.getFranchiseByLocation(location);
25         if(franchises.isEmpty())
26         {
27             throw new FranchiseAllocationException("FranchiseService.FRANCHISE_UNAVAILABLE");
28         }
29         List<FranchiseDTO> franchiseDTOs= new ArrayList<FranchiseDTO>();
30         for(Franchise franchise: franchises)
31         {
32             FranchiseDTO franchiseDTO= FranchiseDTO.prepareDTO(franchise);
33             franchiseDTOs.add(franchiseDTO);
34         }
35         franchiseDTOs.sort((f1,f2)->f2.getRegistrationDate().compareTo(f1.getRegistrationDate()));
36         return franchiseDTOs;
37     }
38
39     @Override // I am expecting the qp like this
40     public FranchiseDTO allocateFranchise(FranchiseDTO franchiseDTO) throws FranchiseAllocationException {
41         // TODO Auto-generated method stub
42         FranchiseValidator.validateFranchise(franchiseDTO);
43         List<Franchise> franchises= franchiseRepository.findByNameAndLocation(franchiseDTO.getFranchiseName(), franchiseDTO.getLocation());
44         if(!franchises.isEmpty())
45         {
46             throw new FranchiseAllocationException("FranchiseService.FRANCHISE_ALREADY_PRESENT");
47         }
48         franchiseDTO.setTenure(calculateTenure(franchiseDTO.getQuotedPrice()));
49         Franchise franchise= FranchiseDTO.prepareEntity(franchiseDTO);
50         franchise=franchiseRepository.save(franchise);
51         franchiseDTO.setFranchiseId(franchise.getFranchiseId());
52         return franchiseDTO;
53     }
54 }
```

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eclipse-workspace - FranchiseAllocation/src/main/java/com/infy/franchiseallocation/validator/FranchiseValidator.java - Eclipse IDE

```
File Edit Source Refactor Navigate Search Project Run Window Help
FranchiseValidator.java × Regex.java application.properties
FranchiseAllocation > src/main/java > com.infy.franchiseallocation.validator > FranchiseValidator
1 package com.infy.franchiseallocation.validator;
2
3 import java.time.LocalDate;
4
5 public class FranchiseValidator {
6
7     public FranchiseValidator() {
8         super();
9         // TODO Auto-generated constructor stub
10    }
11
12    public static void validateFranchise(FranchiseDTO franchiseDTO) throws FranchiseAllocationException
13    {
14        if(isValidQuotedPrice(franchiseDTO.getQuotedPrice())==false)
15        {
16            throw new FranchiseAllocationException("FranchiseValidator.INVALID_QUOTEDPRICE");
17        }
18        if(isValidDates(franchiseDTO.getRegistrationDate(), franchiseDTO.getStartUpdate())==false)
19        {
20            throw new FranchiseAllocationException("FranchiseValidator.INVALID_DATE");
21        }
22        if(isValidTaxNo(franchiseDTO.getTaxNumber())==false)
23        {
24            throw new FranchiseAllocationException("FranchiseValidator.INVALID_TAXNO");
25        }
26    }
27
28    public static Boolean isValidQuotedPrice(Double quotedPrice)
29    {
30        if(quotedPrice<1000000.0)
31        {
32            return false;
33        }
34        return true;
35    }
36
37
38
39
40 }
```

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Links Google Chrome Eclipse IDE for Java Developers - 2021-12 27°C Partly clo... ENG 18:14

The screenshot shows a Java code editor window in Spring Tool Suite 4. The title bar reads "workspace-spring-tool-suite-4-4.16.0.RELEASE1 - StoreFranchise/src/main/java/com/infy/franchiseallocation/api/FranchiseAPI.java - Spring Tool Suite 4". The code editor displays the following Java code:

```
20 import com.infy.franchiseallocation.service.FranchiseService;
21
22 @RestController
23 @RequestMapping(value = "")
24 @Validated
25 public class FranchiseAPI {
26
27     @Autowired
28     private FranchiseService franchiseService;
29
30     @GetMapping(value = "")
31     public ResponseEntity<List<FranchiseDTO>> getFranchiseeReport(@PathVariable String location)
32             throws StoreFranchiseException {
33
34         List<FranchiseDTO> franchiseDTO2 = franchiseService.getFranchiseeReport(location);
35         return new ResponseEntity<>(franchiseDTO2, HttpStatus.OK);
36     }
37
38     @PostMapping(value = "", consumes = "application/json")
39     public ResponseEntity<FranchiseDTO> allocateFranchise(@RequestBody @Valid FranchiseDTO franchiseDTO)
40             throws StoreFranchiseException {
41
42         FranchiseDTO franchiseDTO3 = franchiseService.allocateFranchise(franchiseDTO);
43         return new ResponseEntity<>(franchiseDTO3, HttpStatus.CREATED);
44     }
45 }
```

The status bar at the bottom indicates "Writable", "Smart Insert", and "26:1:977".

Spring Tool Suite 4.4.100.RELEASE | StoreFranchise/src/main/java/com/infy/franchiseallocation/repository/FranchiseRepository.java - Spring Tool Suite 4

```
1 package com.infy.franchiseallocation.repository;
2
3 import java.util.List;
4
5 import org.springframework.data.jpa.repository.Query;
6 import org.springframework.data.repository.CrudRepository;
7
8 import com.infy.franchiseallocation.entity.Franchise;
9
10 public interface FranchiseRepository extends CrudRepository<Franchise, Integer> {
11
12     @Query("SELECT f FROM StoreFranchise f WHERE f.location = ?1")
13     public List<Franchise> getFranchiseByLocation(String location);
14
15     public List<Franchise> findByfranchiseNameAndLocation(String franchiseName, String location);
16
17 }
18
```

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workspace-spring-tool-suite-4-4.16.0.RELEASE1 - StoreFranchise/src/main/java/com/infy/franchiseallocation/service/FranchiseServiceImpl.java - Spring Tool Suite 4

```
File Edit Source Refactor Navigate Search Project Run Window Help
FranchiseAP... FranchiseDT... FranchiseSe... Franchise... ExceptionCon... FranchiseVal... MovieBookin... PatientSeri... MovieBookin...
31     franchiseDTO.sort((x1, x2) -> x1.getRegistrationdate().compareTo(x2.getRegistrationdate()));
32     return franchiseDTO;
33 }
34
35* @Override
36 public Double calculateTenure(Double quotedPrice) {
37     // TODO Auto-generated method stub
38     return null;
39 }
40
41* @Override
42 public FranchiseDTO allocateFranchise(FranchiseDTO franchiseDTO) throws StoreFranchiseException {
43     FranchiseValidator.validateFranchise(franchiseDTO);
44     List<Franchise> franchise1 = franchiseRepository.findByfranchiseNameAndLocation(franchiseDTO.getFranchise
        franchiseDTO.getLocation());
45     if (Boolean.FALSE.equals(franchise1.isEmpty())) {
46         throw new StoreFranchiseException("FranchiseeService.FRANCHISEE_ALREADY_PRESENT");
47     }
48     Franchise franchise2 = FranchiseDTO.prepareEntity(franchiseDTO);
49     franchise2.setTenure(calculateTenure(franchiseDTO.getQuotedorice()));
50     franchiseRepository.save(franchise2);
51     FranchiseDTO franchiseDTO1 = FranchiseDTO.prepareDTO(franchise2);
52     return franchiseDTO1;
53 }
54
55
56 }
```

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```
1 package com.infy.franchiseallocation.service;
2
3* import java.util.ArrayList;□
15
16 @Service(value = "franchiseeService")
17 @Transactional
18 public class FranchiseServiceImpl implements FranchiseService {
19
20     @Autowired
21     private FranchiseRepository franchiseRepository;
22
23     @Override
24     public List<FranchiseDTO> getFranchiseeReport(String location) throws StoreFranchiseException {
25         List<Franchise> franchise = franchiseRepository.getFranchiseByLocation(location);
26         if (franchise.isEmpty()) {
27             throw new StoreFranchiseException("FranchiseeService.FRANCHISEE_UNAVAILABLE");
28         }
29         List<FranchiseDTO> franchiseDTO = new ArrayList<>();
30         franchise.stream().forEach(x -> franchiseDTO.add(new FranchiseDTO().prepareDTO(x)));
31         franchiseDTO.sort((x1, x2) -> x1.getRegistrationdate().compareTo(x2.getRegistrationdate()));
32
33     }
34
35     @Override
36     public Double calculateTenure(Double quotedPrice) {
37         // TODO Auto-generated method stub

```