Exercise

1. Create database springDemo with user table with fields
   (a) username
   (b) password
   (c) name
   (d) age
   (e) dob

```
| user   | CREATE TABLE `user` (
  `username` varchar(30) DEFAULT NULL,
  `password` varchar(100) DEFAULT NULL,
  `name` varchar(100) DEFAULT NULL,
  `age` int(11) DEFAULT NULL,
  `dob` datetime DEFAULT NULL,
  `id` int(11) NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 |
```

2. Insert few records inside user Tables

```
mysql> insert into user (id, name, username, age, password, dob) values (1, 'Tif
fy', 'tstleger0', 49, 'PqrCbmc', '2018-07-21 03:10:34'),(2, 'Skippie', 'sdumper1
', 23, 'iApbgj', '2019-01-04 15:34:20'),(3, 'Andeee', 'amortel2', 47, 'EH79Bgqc5
', '2019-03-04 11:21:57'),(4, 'Miguel', 'mitzkovici3', 32, 'YqUgnm', '2018-07-13
 09:12:11'),(5, 'Jehu', 'jfero4', 50, 'iMextjXi78', '2018-12-16 00:05:45'),(6, '
Irene', 'iroggers5', 30, 'R4J7Bu6U', '2018-03-31 08:29:40'),(7, 'Othello', 'obyh
am6', 25, 'LeHPEUi', '2019-03-09 21:48:58'),(8, 'Carrol', 'cprescott7', 38, 'vsH
9eHvKeW', '2018-08-24 10:57:19'),(9, 'Englebert', 'emelbourne8', 28, 'lZMeNv', '
2018-10-28 01:31:17'),(10, 'Reeba', 'rpasse9', 39, 'mcdAuT', '2018-10-24 11:59:0
7');
Query OK, 10 rows affected (0.09 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

3. Use datasource with DriverManagerDataSource, dbcp2.BasicDataSource and
   SingleConnectionDataSource to print the records of user tables

```
Reeba          39
Mar 14, 2019 11:14:10 PM service.Application main
INFO: ====================Printing Users Using DriverManagerDataSource====================
Mar 14, 2019 11:14:10 PM org.springframework.jdbc.datasource.SingleConnectionDataSource initConnection
INFO: Established shared JDBC Connection: com.mysql.jdbc.JDBC4Connection@3d51f06e
Name           Age
Tiffy          49
Skippie        23
Andeee         47
Miguel         32
Jehu           50
Irene          30
Othello        25
Carrol         38
Englebert      28
Reeba          39
Mar 14, 2019 11:14:10 PM service.Application main
INFO: ====================Printing Users Using SingleConnectionDataSource====================
Name           Age
Tiffy          49
Skippie        23
Andeee         47
Miguel         32
Jehu           50
Irene          30
Othello        25
Carrol         38
Englebert      28
Reeba          39
Mar 14, 2019 11:14:10 PM service.Application main
INFO: ====================Printing Users Using BasicDataSource====================
```

4. Use JdbcTemplate to get the count of users

```
INFO: ======================Prin
No. of Users : 10
```

5. Get name of the user by providing username to the parametrized query

```
Enter username :
rpasse9
Name : Reeba
```

6. Insert one record using JdbcTemplate

```
Enter username :
yatin
Enter password :
yatin01
Enter name :
yatin
Enter Date Of Birth(dd/MM/yyyy) :
01/01/1995
Enter age :
Mar 15, 2019 1:02:47 AM service.Application main
SEVERE: Incorrect Format.
12
No. of rows Affected : 1
```

7. Use QueryForMap to fetch the user details of the user

```
Enter name :
Reeba
{username=rpasse9, password=mcdAuT, name=Reeba, age=39, dob=2018-10-24 11:59:07.0, id=10}
```

8. Use QueryForList to fetch records of all users

```
Enter name for getting users list :
yatin
[{username=yatin, password=yatin01, name=yatin, age=12, dob=null, id=12}, {username=asdvf, password=sdf, name=yatin, age=20, dob=1995-10-10 00:00:00.0, id=13}]
```

9. Use a rowmapper to get the User object when you query for a user

```
Enter name to get User object :
reeba
Optional[User{username='rpasse9', password='mcdAuT', name='Reeba', dob=2018-10-24, age=39}]
```

10. Integrate Hibernate with Spring and use hql query to count the number of records in user table.

```
INFO: HCANN000001: Hibernate Commons Annotations {5.1.0.Final}
Mar 15, 2019 9:00:46 PM org.hibernate.dialect.Dialect <init>
INFO: HHH000400: Using dialect: org.hibernate.dialect.MySQL57Dialect
Mar 15, 2019 9:00:46 PM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
No. of Users : 13
```

11. Use @Transactional to save to save 2 records using jdbc template with the following prapogation options
    1. REQUIRED
    2. REQUIRES_NEW
    3. NESTED
    4. MANDATORY
    5. NEVER
    6. NOT_SUPPORTED
    7. SUPPORTS

```
INFO: HHH000412: Hibernate Core {5.4.1.Final}
Mar 16, 2019 8:51:28 PM org.hibernate.annotations.common.reflecti
INFO: HCANN000001: Hibernate Commons Annotations {5.1.0.Final}
Mar 16, 2019 8:51:29 PM org.hibernate.dialect.Dialect <init>
INFO: HHH000400: Using dialect: org.hibernate.dialect.MySQL57Dial
Mar 16, 2019 8:51:30 PM org.hibernate.engine.transaction.jta.plat
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate
Adding 2 user : No. of rows Added : 1
```

12. Demonstrate the use of following options of @Transactional annotation
    1. read-only
    2. timeout
    3. rollback-for
    4. no-rollback-for

```
Demonstrating read-only,timeout,rollback-for,no-rollback-for.No. of rows Added : 1
No. of rows Added : 1
No. of rows Added : 1
Exception in thread "main" java.lang.ArithmeticException
    at repository.UserRepo.insert4(UserRepo.java:46)
    at service.Application.main(Application.java:107)

Process finished with exit code 1
```