Spring Boot JPA - Native Query

Some time case arises, where we need a custom native query to fulfil one test case. We can use @Query annotation to specify a query within a repository. Following is an example. In this example, we are using native query, and set an attribute **nativeQuery=true** in Query annotation to mark the query as native.

We've added custom methods in Repository in JPA Custom Query chapter. Now let's add another method using native query and test it.

Repository - EmployeeRepository.java

Add a method to get list of employees order by their names.

```
package com.tutorialspoint.repository;

import org.springframework.data.jpa.repository.Query;
import org.springframework.data.repository.CrudRepository;
import org.springframework.stereotype.Repository;
import com.tutorialspoint.entity.Employee;

@Repository
public interface EmployeeRepository extends CrudRepository<Employee, Intege
   public List<Employee> findByName(String name);
   public List<Employee> findByAge(int age);
   public Employee findByEmail(String email);

   @Query(value = "SELECT e FROM Employee e ORDER BY name")
   public List<Employee> findAllSortedByName();

   @Query(value = "SELECT * FROM Employee ORDER BY name", nativeQuery = tru
   public List<Employee> findAllSortedByNameUsingNative();
}
```

Let's test the methods added by adding their test cases in test file. Last two methods of below file tests the custom query method added.

Example

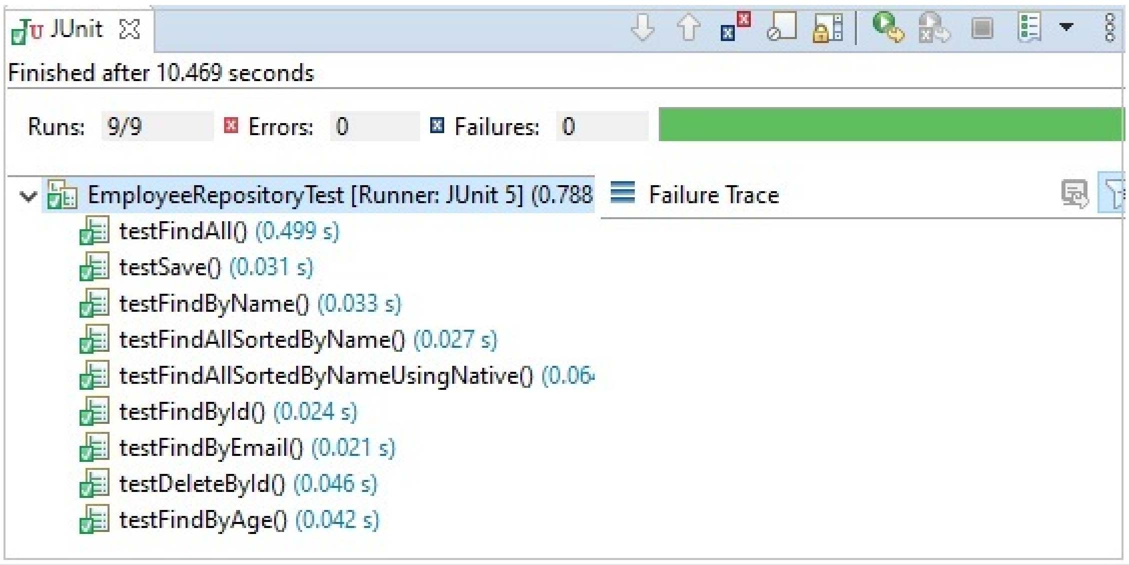
Following is the complete code of EmployeeRepositoryTest.

```java
package com.tutorialspoint.repository;

import static org.junit.jupiter.api.Assertions.assertEquals;
import java.util.ArrayList;
import java.util.List;
import javax.transaction.Transactional;
import org.junit.jupiter.api.Test;
import org.junit.jupiter.api.extension.ExtendWith;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.context.SpringBootTest;
import org.springframework.test.context.junit.jupiter.SpringExtension;
import com.tutorialspoint.entity.Employee;
import com.tutorialspoint.sprintbooth2.SprintBootH2Application;

@ExtendWith(SpringExtension.class)
@Transactional
@SpringBootTest(classes = SprintBootH2Application.class)
public class EmployeeRepositoryTest {
   @Autowired
   private EmployeeRepository employeeRepository;

   @Test
   public void testFindById() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      Employee result = employeeRepository.findById(employee.getId()).get(
      assertEquals(employee.getId(), result.getId());
   }
   @Test
   public void testFindAll() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      List<Employee> result = new ArrayList<>();
      employeeRepository.findAll().forEach(e -> result.add(e));
      assertEquals(result.size(), 1);
   }
   @Test
   public void testSave() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      Employee found = employeeRepository.findById(employee.getId()).get()
      assertEquals(employee.getId(), found.getId());
   }
   @Test
   public void testDeleteById() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      employeeRepository.deleteById(employee.getId());
      List<Employee> result = new ArrayList<>();
      employeeRepository.findAll().forEach(e -> result.add(e));
      assertEquals(result.size(), 0);
   }
   private Employee getEmployee() {
      Employee employee = new Employee();
      employee.setId(1);
      employee.setName("Mahesh");
      employee.setAge(30);
      employee.setEmail("mahesh@test.com");
      return employee;
   }
   @Test
   public void testFindByName() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      List<Employee> result = new ArrayList<>();
      employeeRepository.findByName(employee.getName()).forEach(e -> resul
      assertEquals(result.size(), 1);
   }
   @Test
   public void testFindByAge() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      List<Employee> result = new ArrayList<>();
      employeeRepository.findByAge(employee.getAge()).forEach(e -> result.
      assertEquals(result.size(), 1);
   }
   @Test
   public void testFindByEmail() {
      Employee employee = getEmployee();
      employeeRepository.save(employee);
      Employee result = employeeRepository.findByEmail(employee.getEmail()
      assertNotNull(result);
   }
   @Test
   public void testFindAllSortedByName() {
      Employee employee = getEmployee();
      Employee employee1 = new Employee();
      employee1.setId(2);
      employee1.setName("Aarav");
      employee1.setAge(20);
      employee1.setEmail("aarav@test.com");
      employeeRepository.save(employee);
      employeeRepository.save(employee1);
      List<Employee> result = employeeRepository.findAllSortedByName();
      assertEquals(employee1.getName(), result.get(0).getName());
   }
   @Test
   public void testFindAllSortedByNameUsingNative() {
      Employee employee = getEmployee();
      Employee employee1 = new Employee();
      employee1.setId(2);
      employee1.setName("Aarav");
      employee1.setAge(20);
      employee1.setEmail("aarav@test.com");
      employeeRepository.save(employee);
      employeeRepository.save(employee1);
      List<Employee> result = employeeRepository.findAllSortedByNameUsingNa
      assertEquals(employee1.getName(), result.get(0).getName());
   }
}
```

Run the test cases

Output

Right Click on the file in eclipse and select **Run a JUnit Test** and verify the result.



```
Finished after 10.469 seconds
Runs: 9/9   Errors: 0   Failures: 0
EmployeeRepositoryTest [Runner: JUnit 5] (0.788
   testFindAll() (0.499 s)
   testSave() (0.031 s)
   testFindByName() (0.033 s)
   testFindAllSortedByName() (0.027 s)
   testFindAllSortedByNameUsingNative() (0.06
   testFindById() (0.024 s)
   testFindByEmail() (0.021 s)
   testDeleteById() (0.046 s)
   testFindByAge() (0.042 s)
```