Date: 21/07/2022
Lab Session No.: 04(b)

**Task 4:** Parameterized testing for Armstrong Number using Junit.

**AIM:** To perform parameterized testing for Armstrong number using Junit.

**Procedure**:

**Steps**:

1. Creating Java project.
   - Click on File and select New project
   - Enter project name as com.vogella.JUnit.Armstrong
   - Click on Next and then on Finish
2. Creating java class
   - Right click on com.vogella.JUnit.Armstrong and click on New .
   - Click on class and give the class name as Armstrong
   - Click on Finish
   - Type the following code
   -

```
package com.vogella.JUnit.Armstrong;
import java.lang.Math;

public class Armstrong {

   public int isArmstrong(int n)
   {
      int sum=0,k=n;
      int l=0;
      while(n>0)
      {
         n=n/10;
         l++;
      }
      n=k;
      int r;
      while(n>0)
      {
         r=n%10;
         sum+=(int)Math.pow(r, l);
         n=n/10;
      }
      if(sum==k)
         return 1;
      else
         return 0;
      }


   }
```

3. Creating java Test Project
   - Right click on com.vogella.JUnit.Armstrong
   - Click on properties and select tab java build path

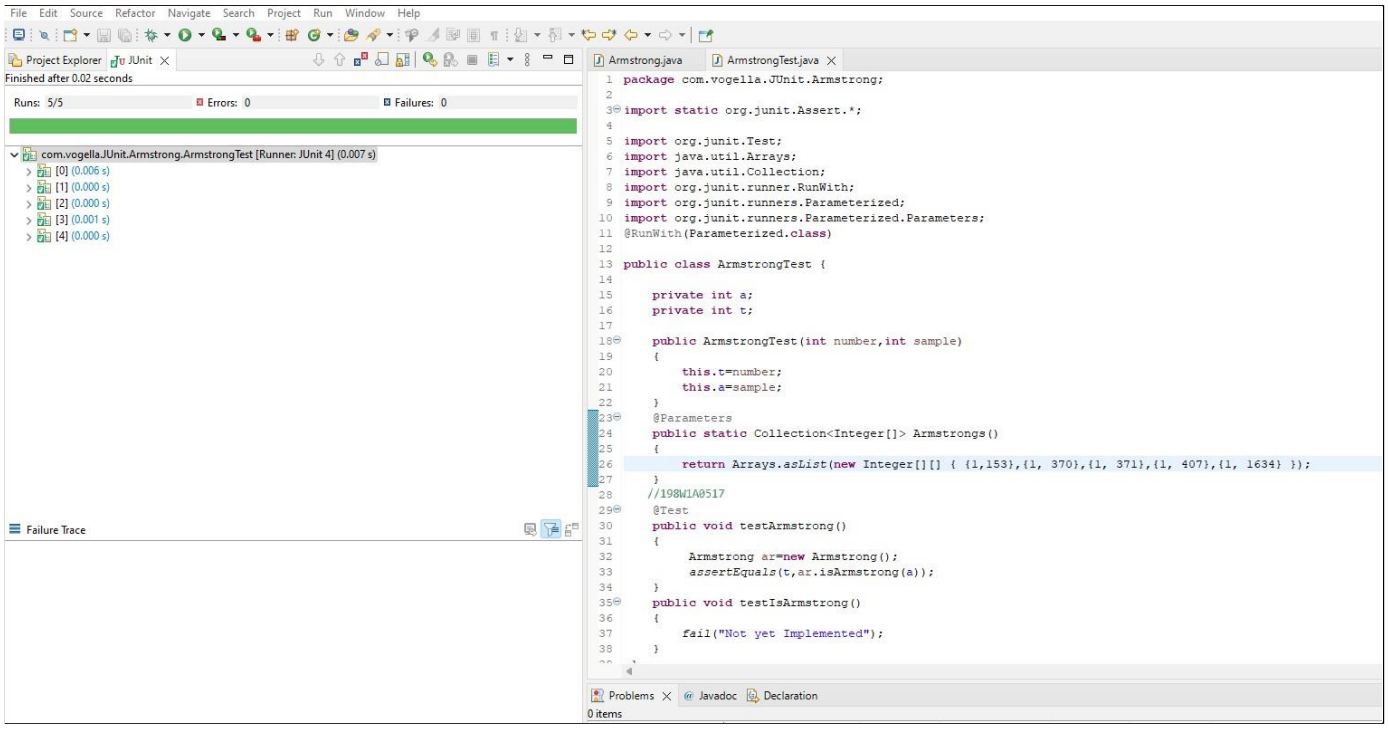
- Click on source and click on Create New Folder.
- Give the folder name as Test and click on next.
- Click on Finish and then on OK

4. Create java test class
   - Right click on com.vogella.JUnit.Armstrong and click on new
   - Click on Junit test case.
   - Change the name of folder "src" to test in source folder "Test".
   - Click on browse and select "Armstrong" class and click on Next.
   - Click on Finish and then on OK.
   - Add the following code

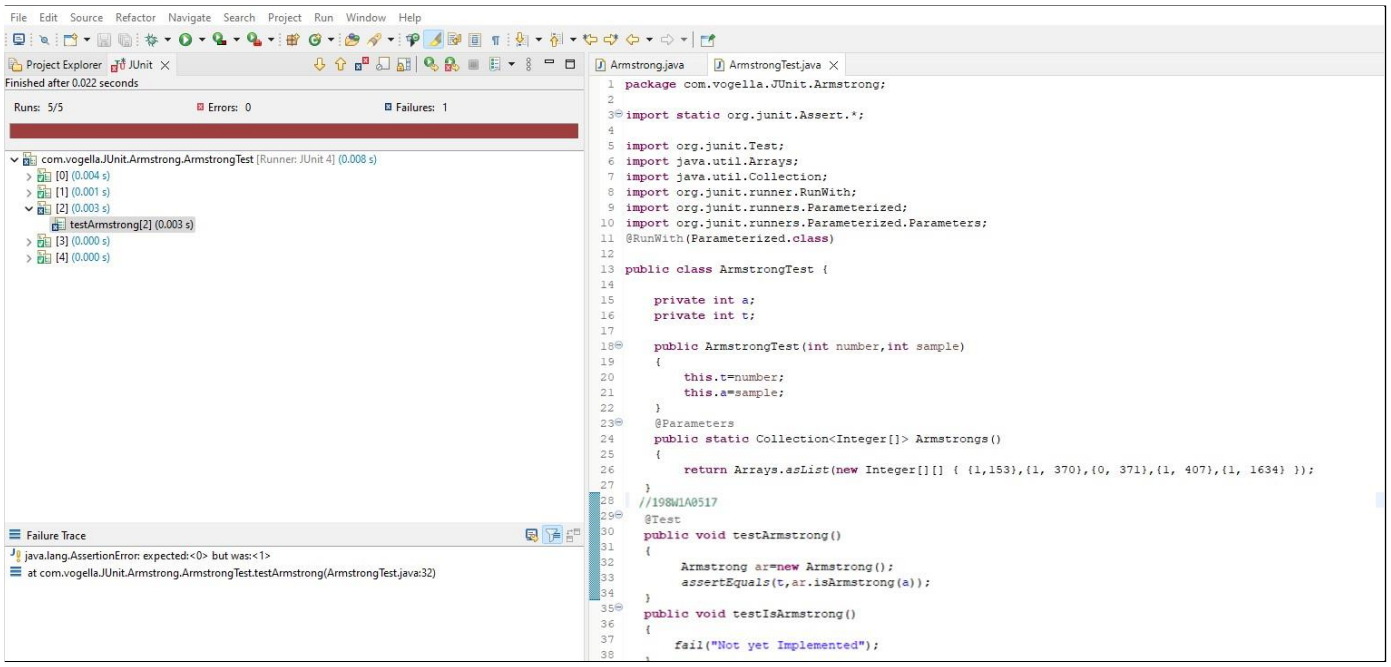
```
package com.vogella.JUnit.Armstrong;

import static org.junit.Assert.*;

import org.junit.Test;
import java.util.Arrays;
import java.util.Collection;
import org.junit.runner.RunWith;
import org.junit.runners.Parameterized;
import org.junit.runners.Parameterized.Parameters;
@RunWith(Parameterized.class)

public class ArmstrongTest {

	private int a;
	private int t;

	public ArmstrongTest(int number,int sample)
	{
		this.t=number;
		this.a=sample;
	}
	@Parameters
	public static Collection<Integer[]> Armstrongs()
	{
		return Arrays.asList(new Integer[][] { {1,153},{1, 370},{1, 371},{1,
407},{1, 1634} });
	}
	//198W1A0517
	@Test
	public void testArmstrong()
	{
		 Armstrong ar=new Armstrong();
		 assertEquals(t,ar.isArmstrong(a));
	}
	public void testIsArmstrong()
	{
		fail("Not yet Implemented");
	}
 }
```

**OUTPUT:**

**CASE 1:** Pass




**CASE 2**:Fail




**RESULT:** To perform parameterized testing for Armstrong number using Junit is successfully completed.

**Marks:**_____ **Staff Signature :**_____