

ASE Lab – 6

Rest Services

In this assignment, I have created 2 rest services for the calculation of volume and perimeter of cylinder. I have tested the code by writing the test cases in Junit. I created a local server using the tomcat8.0.

First Rest Service:

Here I have created the rest service for the calculation of volume of a cylinder. Input values have to be provided in the URL. If you provide the input of radius and height, desired volume will be displayed, else zero will be displayed. I have displayed output as xml format.

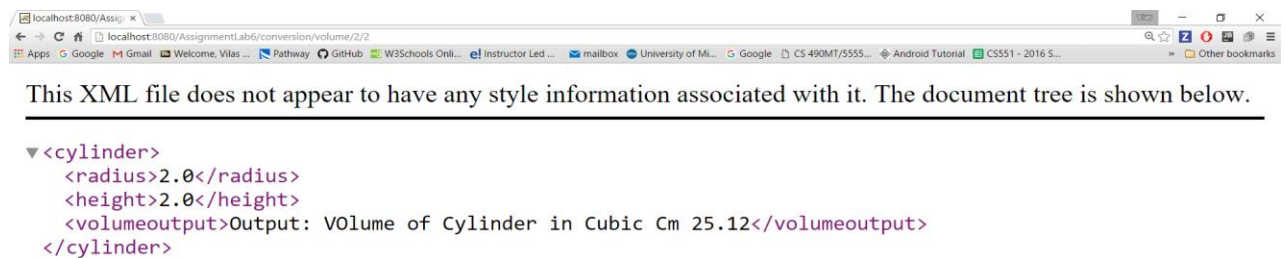


Fig:Volume for given values

Given,

$$\text{radius} = 2,$$

$$\text{height} = 2$$

$$\begin{aligned}\text{volume} &= \pi * R * R * H \\ &= 25.12\end{aligned}$$

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<cylinder>
  <radius>0.0</radius>
  <height>0.0</height>
  <volumeoutput>Output: Volume of Cylinder in Cubic Cm 0.0</volumeoutput>
</cylinder>
```

Fig: Volume for default values

Test Case for Volume:

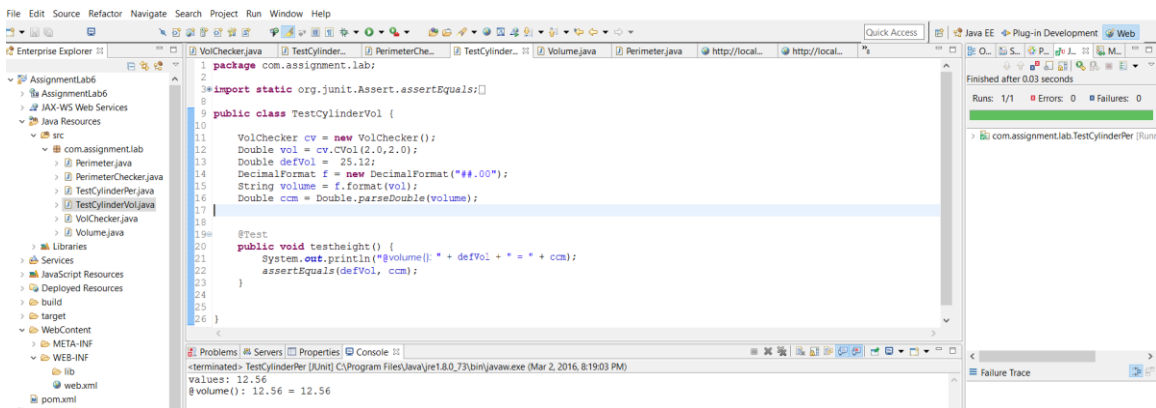


Fig: Success test case for volume.

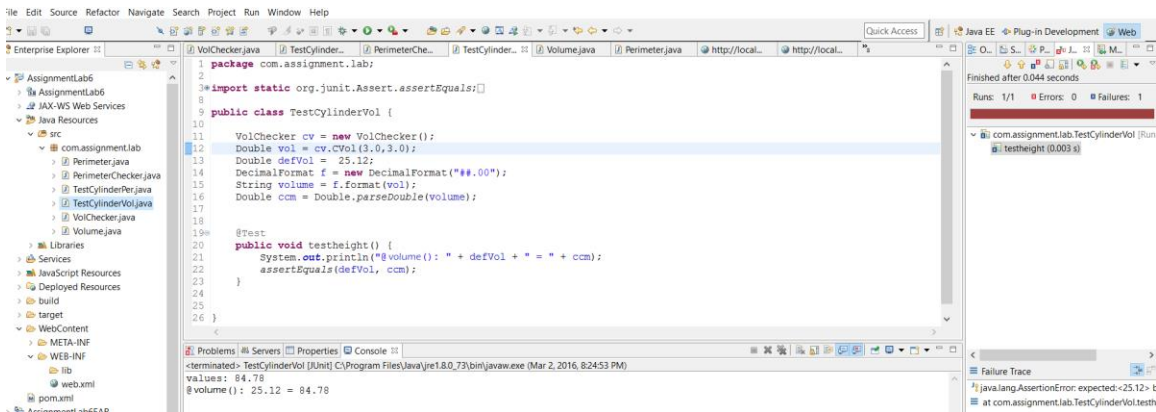
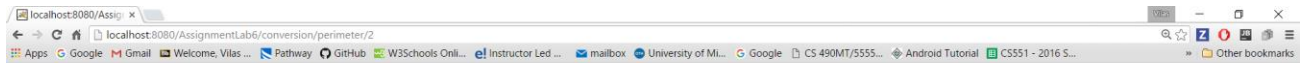


Fig: Failure test case for volume

Rest Service 2:

Here I have created the rest service for the calculation of perimeter of a cylinder. Input values have to be provided in the URL. If you provide the input of radius, desired volume will be displayed, else zero will be displayed. I have displayed output as xml format.



This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0"?>
<cylinder>
  <rad>2.0</rad>
  <perimeter>Output: Perimeter of Cylinder in Cms 12.56</perimeter>
</cylinder>
```

Fig: Perimeter for given values

Given,

$$\begin{aligned}\text{radius} &= 2 \\ \text{perimeter} &= 2 * \pi * R \\ &= 12.56\end{aligned}$$



```
<?xml version="1.0"?>
<cylinder>
  <rad>0.0</rad>
  <perimeter>Output: Perimeter of Cylinder in Cms 0.0</perimeter>
</cylinder>
```

Fig: Perimeter for default value

Perimeter of cylinder = $2 * \pi * r$

Given,

$$r = 0$$

$$\text{So Perimeter} = 0$$

Test Case for Perimeter:

Here I have provided default inputs of radius, height and volume. I am comparing the default value with the code value.

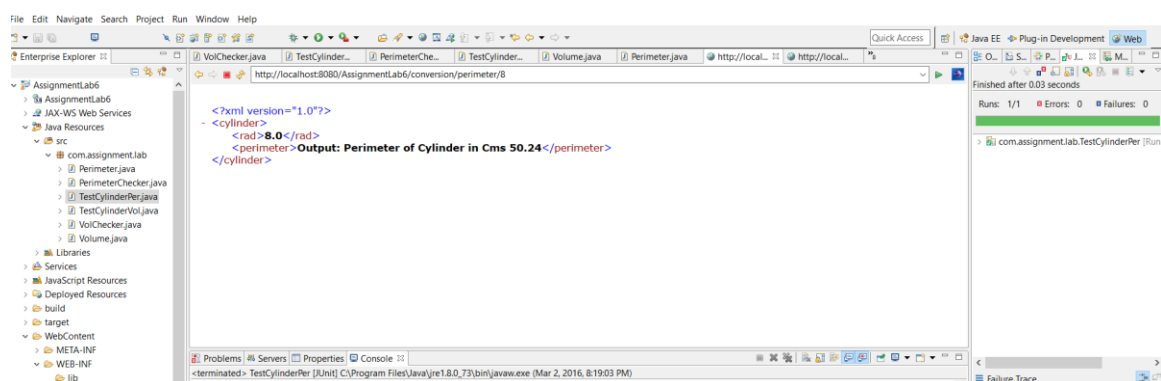


Fig: Success test case

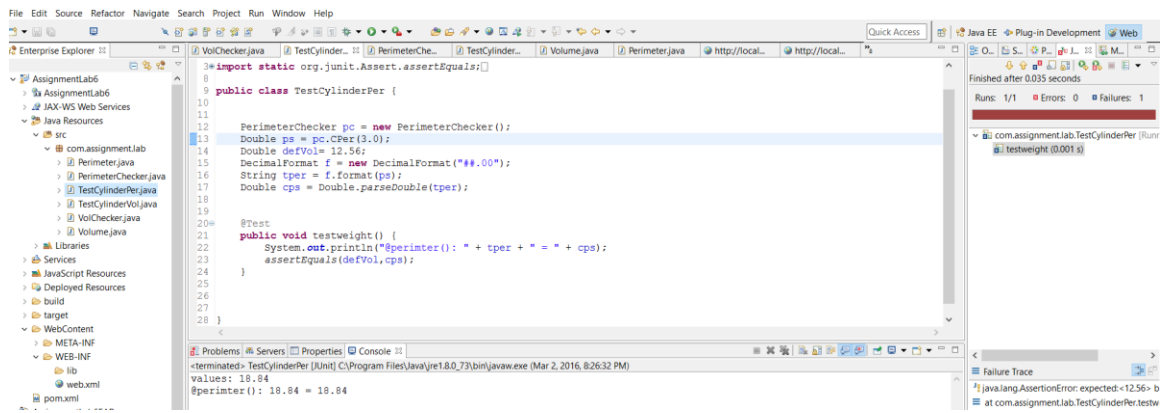


Fig: Failure test case