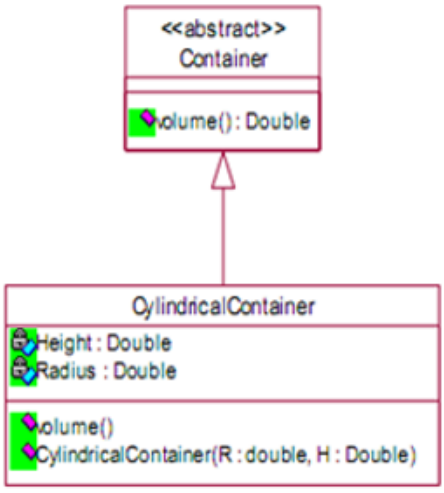
Abstract Method Question

Lab-2023.07.06

Abstract class and abstract methods



The Volume of a Cylinder can be found with the following formula:

Volume = PI * Radius*Radius*Height where PI=3.14159

It is required to map the above class diagram to Java code.

Note: Container is an abstract class.
Height & Radius are private variables
All the methods are public

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i)Write down the Java definition of class container

```
package com.mycompany.abstractexample;

 public abstract class  Container
{
   public abstract double volume();
}
```

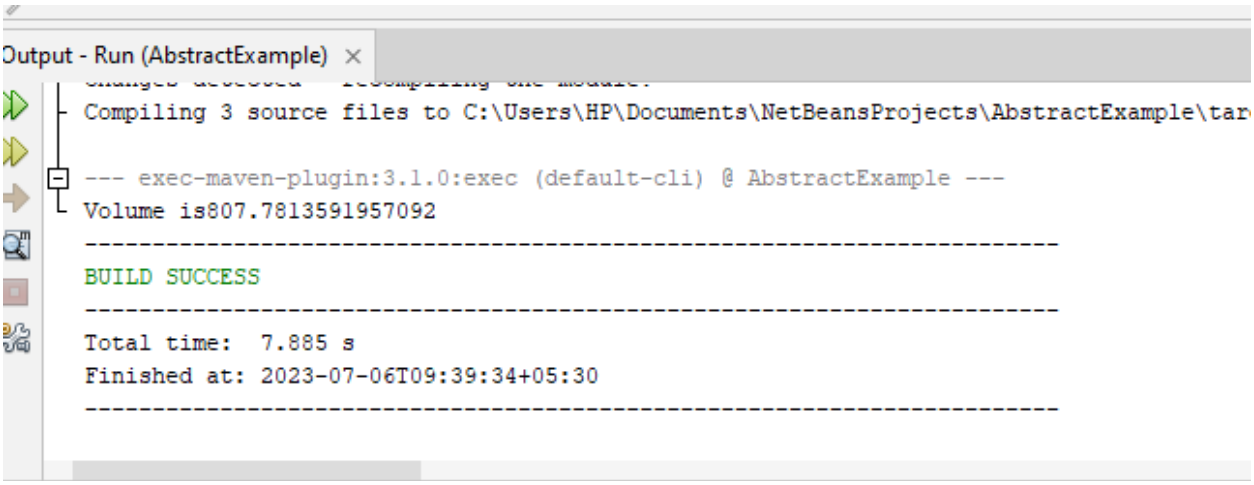
ii)Write the Java Definition of class CylindricalContainer. (Implement the Methods)

```
package com.mycompany.abstractexample;
public class CylindericalContainer extends Container
{
  private double height,radius;
  public CylindericalContainer(double radius,double height)
  {
     this.radius=radius;
     this.height=height;
  }
  public double volume()
  {
     return 3.14159f*radius*height*radius;
  }
}
```

iii)Create an object from CylindericalContainer and display the volume.

```
package com.mycompany.abstractexample;
public class AbstractExample {

    public static void main(String[] args)
    {
      CylindericalContainer c1=new CylindericalContainer(5.50,8.50);
      System.out.println("Volume is"+c1.volume());
    }
}
```


Output - Run (AbstractExample)
Compiling 3 source files to C:\Users\HP\Documents\NetBeansProjects\AbstractExample\tar
--- exec-maven-plugin:3.1.0:exec (default-cli) @ AbstractExample ---
Volume is807.7813591957092
BUILD SUCCESS
Total time: 7.885 s
Finished at: 2023-07-06T09:39:34+05:30