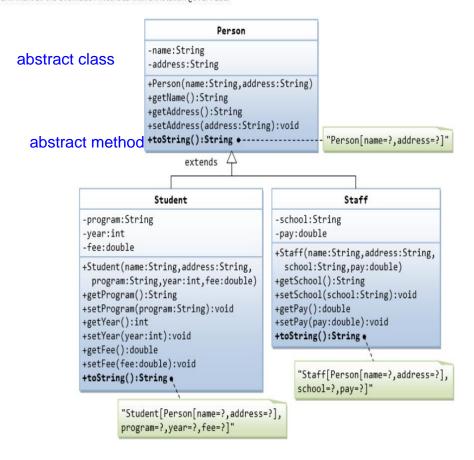
Write the classes as shown in the following class diagram. Mark all the overridden methods with annotation @Override.



```
Shape
              -color:String = "red"
interface
             -filled:boolean = true
             +Shape()
             +Shape(color:String,filled:boolean)
             +getColor():String
             +setColor(color:String):void
             +isFilled():boolean
             +setFilled(filled:boolean):void
             +toString():String.
                                                     "Shape[color=?,filled=?]"
                           extends
                     Circle
                                                          Rectangle
        -radius:double = 1.0
                                               -width:double = 1.0
                                               -length:double = 1.0
        +Circle()
        +Circle(radius:double)
                                               +Rectangle()
                                               +Rectangle(width:double,
        +Circle(radius:double,
           color:String,filled:boolean)
                                                  length:double)
        +getRadius():double
                                               +Rectangle(width:double,
        +setRadius(radius:double):void
                                                  length:double, color:String,
        +getArea():double
                                                  filled:boolean)
        +getPerimeter():double
                                               +getWidth():double
        +toString():String.
                                               +setWidth(width:double):void
                                               +getLength():double
                                               +setLength(legnth:double):void
                   "Circle[Shape[color=?,
                                               +getArea():double
                   filled=?],radius=?]"
                                               +getPerimeter():double
                                              +toString():String
              "Rectangle[Shape[color=?,
                                                            Square
              filled=?],width=?,length=?]"
                                               +Square()
                                               +Square(side:double)
                                               +Square(side:double,
              The length and width shall be
                                                  color:String, filled:boolean)
                                               +getSide():double
              set to the same value.
                                               +setSide(side:double):void
```

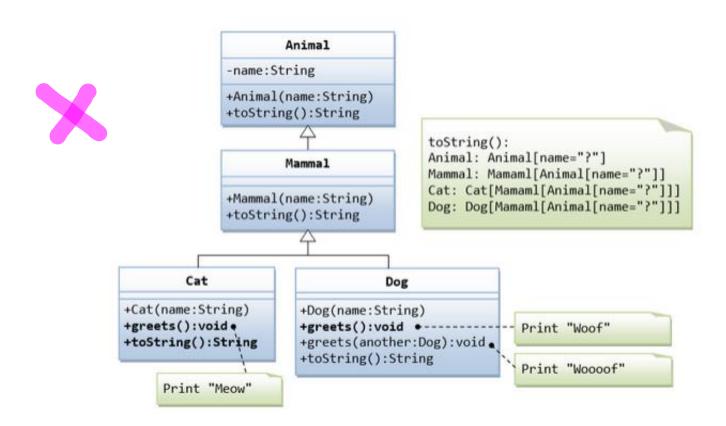
"Square[Rectangle[Shape[color=?,

filled=?],width=?,length=?]]"

+setWidth(side:double):void

+setLength(side:double):void

+toString():String



```
<<abstract>> Shape
                 #color:String = "red"
                                                           # denotes protected access
                 #filled:Boolean = true
                 +Shape()
                 +Shape(color:String,filled:boolean)
                 +getColor():String
                 +setColor(color:String):void
                 +isFilled():boolean
                 +setFilled(filled:boolean):void
                 +abstract getArea():double
                 +abstract getPerimeter():double
                                                           "Shape[color=?,filled=?]"
                 +toString():String .
                                     extends
             Circle
                                                     Rectangle
#radius:double = 1.0
                                     #width:double = 1.0
                                     #length:double = 1.0
+Circle(radius:double)
                                     +Rectangle()
+Circle(radius:double,
                                     +Rectangle(width:double,length:double)
   color:String,filled:boolean)
                                     +Rectangle(width:double,length:double,
+getRadius():double
                                         color:String,filled:boolean)
+setRadius(radius:double):void
                                      +getWidth():double
+getArea():double
                                      +setWidth(width:double):void
+getPerimeter():double
                                      +getLength():double
+toString():String .
                                      +setLength(legnth:double):void
                                     +getArea():double
                                     +getPerimeter():double
         "Circle[Shape[color=?,
                                     +toString():String
         filled=?],radius=?]"
  "Rectangle[Shape[color=?,
                                                      Square
   filled=?],width=?,length=?]"
                                      +Square()
                                      +Square(side:double)
                                      +Square(side:double,color:String,
                                         filled:boolean)
                                      +getSide():double
                                      +setSide(side:double):void
                                      +setWidth(side:double):void
 "Square[Rectangle[Shape[color=?,
                                      +setLength(side:double):void
```

++toString():String

+Circle()

filled=?],width=?,length=?]]"