Professional Programming with C#

Shape

- color: string = "red"

- filled: bool =true

+ Shape()

+ Shape(color:striing, filled:bool)

+ DisplayInfo() : void

Circle

+ radius: double =1.0

+ Circle()

+ Circle(radius:double)

+ Circle(radius:double,color:string, filled:bool)

+ GetArea() :double

+ GetPerimeter() :double

+ DisplayInfo() :void

Rectangle

+ width: double = 1.0

+ length: double = 1.0

+ Rectangle()

+ Rectangle(width:double, length:double)

+ Rectangle(width:double, length:double,color:string, filled:bool)

+ GetArea() :double

+ GetPerimeter() :double

+ DisplayInfo() :void

Cylinder

+ Height: double =1.0

+ Cylinder()

+ Cylinder(height:double)

+ Cylinder(height:double,radius:double)

+ Cylinder(height:double,radius:double,color:string,filled:bool)

+ GetArea() :double

+ GetPerimeter() :double

+ DisplayInfo() :void

Square

+ Square()

+ Square(side:double,)

+ Square(side:double,color:string, filled:bool)

+ GetArea() :double

+ DisplayInfo() :void
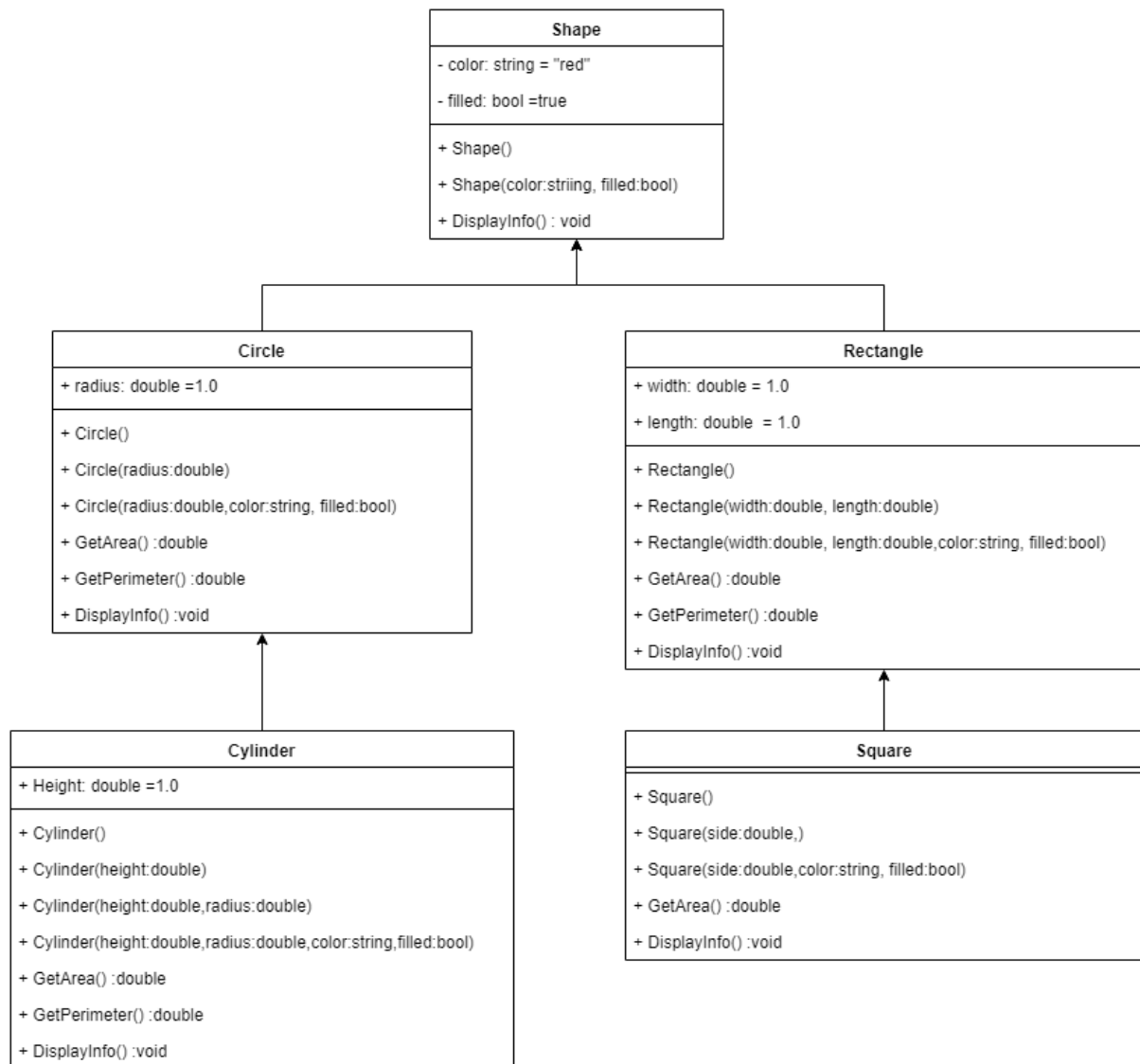
---

1. Create all classes
2. Initialize default value on default constructor
3. Create object of each class with constructor and instantiate on shape class
4. Show DisplayInfo() for each object
5. Try to reduce code repetition.

- Circle Area = Pi*R*R
- Circle Perimeter = 2*Pi*R
- Cylinder Area = 2*Pi*R(H+R)
- Cylinder Perimeter = 2*Pi*R
- Rectangle Area = L*W
- Rectangle Perimeter = 2(L+W)
- Square Area = X*X
- Square Perimeter = 4*X