CSC1850 Object-oriented Programming (Fall 2025)
Homework Assignment 6
(10 points)

Due Date: Sunday, October 12 before midnight

(Question 9.8 in Textbook)
Practice on basic Object Oriented Programming.

 (*The **Fan** class*) Design a class named **Fan** to represent a fan. The class contains:
1 Three constants named **SLOW**, **MEDIUM**, and **FAST** with the values **1**, **2**, and **3** to denote the fan speed.
2 A private **int** data field named **speed** that specifies the speed of the fan (the default is **SLOW**).
3 A private **boolean** data field named **on** that specifies whether the fan is on (the default is **false**).
4 A private **double** data field named **radius** that specifies the radius of the fan (the default is **5**).
5 A string data field named **color** that specifies the color of the fan (the default is **blue**).
6 The accessor and mutator methods for all four data fields.
7 A no-arg constructor that creates a default fan.
8 A method named **toString()** that returns a string description for the fan. If the fan is on, the method returns the fan speed, color, and radius in one combined string. If the fan is not on, the method returns the fan color and radius along with the string "fan is off" in one combined string.

Draw the UML diagram for the class then implement the class. Write a test program that creates two **Fan** objects. Assign maximum speed, radius **10**, color **yellow**, and turn it on to the first object. Assign medium speed, radius **5**, color **blue**, and turn it off to the second object. Display the objects by invoking their **toString** method.

Submission
    Submit your source code (.java) with some screenshot on Canvas.