**Lab 2 – Fans, 10 points (Based on Chapter 9), Due February 2 at 11:30pm.**

This lab requires you to write a Fan class. The Fan class represents a fan. Use proper naming conventions including uppercase of constants and camel case for instance fields. Comment the class and the methods. Upon completion upload Fan.java.

Implement the Fan class as follows.

* A set of public class constants including SLOW = 1, MEDIUM = 2, and FAST = 3.
* A private int data field named speed that specifies the speed of the fan (the default is SLOW).
* A private boolean data field named on that specifies whether the fan is on (the default is false).
* A private double data field named radius that specifies the radius of the fan (the default is 5).
* A string data field named color that specifies the color of the fan (the default is blue ).
* The accessor and mutator methods for all four data fields. An accessor the boolean is name is<Something> such as isOn(): boolean.
* A no-arg constructor that creates a default fan.
* 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.
* (optional) Draw the UML diagram for the class.

Additionally implement main() as follows:

* Create at least 5 Fan objects and store them into an array of type Fan. This should be done in a method called static Fan[] load(), i.e. it creates a set of fans and places them into an array and returns the array to main.
* Assign maximum speed, radius 10, color yellow, and turn it on to the first object in the array.
* Assign medium speed, radius 5, color blue, and turn it off to the second object in the array.
* The remaining fan objects can have varying values for their attributes. Display the objects by invoking their toString method.
* Implement a method that will print the fans, i.e. static void print(Fan[] fans) making use of the toString() method in Fan.

Implement the following method as well and modify main() such that it calls this method for each different speed and prints the related resulting count:

* Write a method with the following signature: public static int countBlue(Fan[] fans, int speed) that counts the number of fans with the given speed. Note, fans that are off should not be counted.

You can be creative with the format of your output.