Week 5 Homework Q74

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CE480 - Java and Internet Application

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# Author Note

# The Question

1. String and Fixed Array Data Members
   * Complete the following code with 4 types of member functions and test the code on on Java IDE
   * Person
   * String name
   * int eyeSizes[]
   * // Predicate
   * isBlind() if all eye sizes = 0
   * // Implementor
   * turnToBlind
   * // Test
   * 1. Create a person, jack,
   * name="Jack"
   * eye sizes = (2, 3)
   * 2. Check whether jack is blind
   * 3. jack turns to blind
   * 4. Check whether jack is blind

* + References
    - [Class with string attribute](https://hc.labnet.sfbu.edu/~henry/sfbu/course/introjava/java_class/slide/classStruct.htm#Class%20with%20string%20attribute)
    - [Class with fixed numerical array attribute](https://hc.labnet.sfbu.edu/~henry/sfbu/course/introjava/java_class/slide/classStruct.htm#Class%20with%20fixed%20numerical%20array%20attribute)

A screenshot of a computer program

Description automatically generated

The Source Code

import java.util.Arrays;

public class Person {

    private final String name;

    private final int[] eyeSizes;

    // Constructor

    public Person(String name, int[] eyeSizes) {

        this.name = name;

        this.eyeSizes = eyeSizes;

    }

    // Predicate: isBlind() - Check if all eye sizes are 0

    public boolean isBlind() {

        for (int size : eyeSizes) {

            if (size != 0) {

                return false;

            }

        }

        return true;

    }

    // Implementor: turnToBlind() - Set all eye sizes to 0

    public void turnToBlind() {

        Arrays.fill(eyeSizes, 0);

    }

    // Override toString for better formatting

    @Override

    public String toString() {

        return "Name: " + name + ", Eye Sizes: " + Arrays.toString(eyeSizes);

    }

    public static void main(String[] args) {

        // Test the code

        int[] jackEyeSizes = { 2, 3 };

        Person jack = new Person("Jack", jackEyeSizes);

        System.out.println("1. Created a person, Jack: " + jack);

        System.out.println("2. Is Jack blind? " + jack.isBlind());

        jack.turnToBlind();

        System.out.println("3. Jack turns blind: " + jack);

        System.out.println("4. Is Jack blind now? " + jack.isBlind());

    }

}