WEEK FOURTEEN

CODE WRITING PRACTICE

- Everyone writes on their own piece of paper

- Then, we will discuss a solution together

IF STATEMENTS/LOGIC

- Write the if statements and logic for the following:
    - A vault security system has several layers of security. In order to gain entry, a person must type in the correct `pin` (7), their fingerprint must match one in the system (`isValidFingerprint`), and their `name` must also be in the system (all valid names are stored in an ArrayList<String> called `names`). In this case, `access` will be granted. However, if the person does a retinal scan (`isValidRetina`) in addition to the previous checks, then they will be granted `specialAccess` as well.

- Input variables (can assume they will get values):   Output variables (you should assign):
    - `int pin;`   `boolean access;`
    - `boolean isValidFingerprint;`   `boolean specialAccess;`
    - `String name;`
    - `boolean isValidRetina;`
    - `ArrayList<String> names = new ArrayList<>();`

LOOPS

- Add a loop and logic to the following code, so that:
  - If the user types "up", `value` is increased by one
  - If the user types "down", `value` is decremented by one
  - If the user types "exit", the loop is exited
  - If `value` is less than 0, exit
  - If `value` is greater than 5, exit
  - You don't need to do any error checking

- Provided code:
  - `Scanner scnr = new Scanner(System.in);`
  - `int value = 3;`
  - `String userInput = "";`
  - `[INSERT LOOP HERE]`
    - `userInput = scnr.next();`

METHODS

- Write a method that takes in a number of students

- Return the number of groups required to have an equal number of students in every group

- There must be a minimum of three groups

- Example input/output:
  - IN: 9 / OUT: 3
  - IN: 10 / OUT: 5
  - IN: 13 / OUT: 13

METHODS

- Write a method header for a method that returns the price of an item, given its name and id number

- Make sure to use the most appropriate data types when possible

ARRAYS

- Add a line to the following code so the for loop sums all of the values in the array

- Add a line to calculate the average

- Add a line to store the average in the last index of the array

- `double[] gpas = {3.4, 2.7, 3.8, 4.0, 0};`

- `double sum = 0.0;`

- `double avg = 0.0;`

- `for(double gpa : gpas) {}`

REVIEW

- https://jeopardylabs.com/play/cs-1180-final-review