Algorithm Practice 1 – Mr Hanley:

1. Have the user enter in a temperature in degrees Celsius (positives and negatives OK, can have decimals). Output the temperature in Fahrenheit.

2. Suppose a person shoots 5 free throws during a game of basketball. Allow the user to type in a 1 for a made free throw and a 0 for a missed free throw. After 5 inputs, provide their free throw percentage (percent they successfully made)

3. Have the user enter in 3 numbers from the keyboard than can include decimals and negatives.
    a. Output the sum
    b. Output the product
    c. Output the formula: 3a + 2/b + c-5
    d. Find the largest number (what if there are 2? Or 3?)

4. Have the user enter a song title. Count the number of words in the song title.

5. Prompt the user for an alpha-numeric password.
    a. Then decide if the password is at least 6 characters. If the password is less than 6 characters, give the user an error message. If the password is greater than or equal to 6 characters, then output the message “Password OK”
    b. Also confirm that at least one of the characters is non alphabetical (symbol or number)
    c. If the character is not sufficient length or doesn’t contain at least one non-alphabetical character, then loop again until they enter a sufficient password

6. “Roll” two six sided dice 15 times
    a. Sum the dice. Count how many sums of 2,3,4,5,6,7,8,9,10,11 and 12 you get. Print these out to the console on a separate line for each as follows;
    (Hint: the tab character can help you even things out in the console, System.out.println(“2\t ->\t” +);)

    ```
    #           Frequency
    ---------------------------------
    2     ->    1
    ```

3 -> 0
4 -> 1
5 -> 2
6 -> 2
7 -> 4
8 -> 1
9 -> 2
10 -> 1
11 -> 1
12 -> 0

b. Modify the above to allow the user to specify how many times to “roll the bones”
Print out the frequency table for this new number of iterations

7. Have the user input a number (positive, no decimals). Output the Roman Numeral that corresponds to that number.

8. Assigning numbers to the days in a teacher’s gradebook can be a nuisance. This is where you come in! There are 5 weeks on one page at a time in a teacher’s gradebook. Provide a program to print out the numbers for the headings for the days. For example, here is the blank teacher’s gradebook page;

If the Monday of the first day of the marking quarter happened to be the 22nd of January (non leap year).

1st week					2nd week					3rd week					4th week					5th week				

Then here is what your program would output;

22 23 24 25 26 29 30 31 1 2 5 6 7 8 9 12 13 14 15 16 19 20 21 22 23

Keep in mind, VACATION WEEKS DO NOT GO INTO THE GRADEBOOK!!!!