**External Documentation for CPSC 1150 – W05 Lab 3**

**Program:** Display Pyramid

File Name: DisplayPyramid.java

Purpose: Displaying a pyramid of numbers

Input: integer between 1 and 15

Output: Pyramid shape of integers listed greatest to smallest to greatest again.

**Algorithm**

Displaying the Pyramid

START

1. Get integer from 1 to 15
2. Use a nested loop/ 3 different loops in one loop so that it does:
3. First loop includes 3 loops inside it. int i = 0; i < inputNum+1; i++
4. Second loop starts from user input, then decreases everytime loop happens.
5. Third loop prints 1
6. Fourth loop prints from 2 and prints until user input as loop goes on
7. Display result

END

**Sample Input and Output**

Enter a number between 1 and 15: 15

1

2 1 2

3 2 1 2 3

4 3 2 1 2 3 4

5 4 3 2 1 2 3 4 5

6 5 4 3 2 1 2 3 4 5 6

7 6 5 4 3 2 1 2 3 4 5 6 7

8 7 6 5 4 3 2 1 2 3 4 5 6 7 8

9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9

10 9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9 10

11 10 9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9 10 11

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

13 12 11 10 9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9 10 11 12 13

14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

**Program:** Elevator

File Name: Elevator.java

Purpose: Displaying taking an elevator with corresponding floors

Input: floor

Output: image of elevator moving up and down the floors

**Algorithm**

Displaying Elevator

START

1. Get the floor user wants to go
2. If floor you want to go is higher than the floor you were in, designed elevator and up sign will be displayed
3. If floor you want to go is lower than the floor you were in, designed elevator and down sign will be displayed
4. If floor you want to go is higher than the floor you were in, designed elevator and up sign will be displayed
5. Display the result

END

**Sample Input and Output**

o------o //\\

| 4 | // \\

o------o // \\

o------o //\\

| 3 | // \\

o------o // \\

o------o //\\

| 2 | // \\

o------o // \\

o------o //\\

| 1 | // \\

o------o // \\

**Program:** Find the middle name

File Name: FindMiddleName.java

Purpose: To find the middle name

Input: your first, middle, last name

Output: your middle name

**Algorithm**

Finding your middle name

START

1. Get users first, middle and last name
2. Store full name of user in a string variable
3. Make the string variable a string array
4. Split the string variable by a space
5. set string variable middleName to first index of your full name string array
6. Display result

END

**Sample Input and Output**

Enter your first, middle, and last name seperated by single space: jay seung yeon

Seung

**Program:** Kilograms and pounds

File Name: KilogramsAndPounds.java

Purpose: converting kilograms to pounds and pounds to kilograms

Input: kilogram and pound

Output: converted kilogram and pound

**Algorithm**

converting kilograms to pounds and pounds to kilograms

START

1. Set const double KILOGRAM\_TO\_POUND = 2.200;
2. Make a heading for the first column using printf
3. Set up a loop so loop will be executed 10 times
4. Make kilograms increase by 1+ i\*2
5. Pounds by 20+(i\*5)
6. Print the result every time loop is executed

END

**Sample Input and Output**

kilograms pounds | pounds kilograms

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1 2.200 | 20 9.091

3 6.600 | 25 11.364

5 11.000 | 30 13.636

7 15.400 | 35 15.909

9 19.800 | 40 18.182

11 24.200 | 45 20.455

13 28.600 | 50 22.727

15 33.000 | 55 25.000

17 37.400 | 60 27.273

19 41.800 | 65 29.545