

## MSiA 422 – Fall 2022

### Homework # 4

**DUE: 11/04/2022**

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#### Exercise 1 - Currency convertor

Write a java program that:

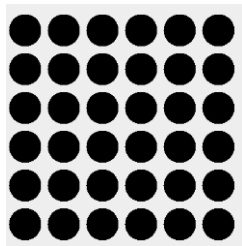
- Ask the user to type the price for one dollar in Japanese yen.
- The program will allow the user to convert from dollars to yen and vice versa.
- At any point of time the user can request to change the conversion rate.
- The program stops after a sentinel character entry.

Insure user entry validation at all time. No Crashes or unexpected results.

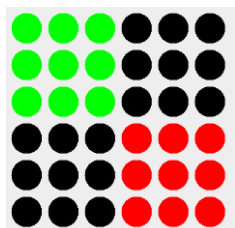
#### Exercise 2

A sample java code that plots a  $n \times n$  small circles with black color on a java frame window is located at FunPlot.java file. Where n is a user entered even number

See result for n=6:



Modify the code to display different colors on each quadrant as shown below.



### Exercise 3 - Data Analysis

A sample text file that holds employees data is attached with the homework. Each line has the following data elements (separated by commas):

**Name, DOB, Salary**

Write a Java based code to answer the following questions:

- How many Employees exist in the file?
- Who has the highest salary?
- What is the average salary?
- How many employees make above the average?
- What is the average **age** of employees?

Write to an output file the employee names **sorted** according to their salary? (Make sure to well format the output file)

**Grading is based on:**

- Output accuracy
- Show user clear messages
- Always user input validation
- Avoid Errors/crashes
- Always add good comments
- The use of Arrays or Array Lists Object
- The use of short methods