

//Header//

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Project: Milk Weights

Project Description: This project stores the statistics of the milk production of different farms, and are able to provide the farm report base on the farm and different time periods base on the user input.

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## 2.Class Summary:

enum, interface, class, abstract class	Name of the type	Description of use or purpose of this type
Interface	DataStructureADT	defines required operations for my data structure
class	Application	Defined required operation for the MilkData calss
Class	DataStorage implements DataStructureADT	Implements DataStructureADT and read and stores the farm id, date, and weight properly from the files.
Class	Main extends application	The class that contains the main method to execute the program.
class	Farm	Create a class object base on the specific farm id, with an array that stores the weight of its milk production, used in DataStorage
Enum	Months	Enum that contains different months that can be used to identify the String input from the user.

## 3.Class Table:

### DataStorage:

Public Fields:

Public Farm [] farmArray	The array that stores the farm objects, valid for all farm objects.

Private int size; private int arraySize; private String [] farmID;	

Constructor:

No parameter required.

Public Methods:

Return type	Public Method name	Parameter	Description	
int	monthTotalWeight	(int, int)	Returns the total milk production of the specific month of all farms.	
int	annualTotalWeight	(int)	Returns the total milk weight of all farms of a specific year	
int	farmYearWeight	(String farmID, int year)	Returns the total milk weight of a specific farm of a specific year.	
void	insert()	(String filename)	Let users add data of farms from a file	
void	remove()	(String farmID,)	Remove the specific farm information from the farmArray	
boolean	Contains()	(String farmID)	Check if the DataStorage have the information of such farm.	
int	Size()	()	Return the number of farms	
farm	Get()	(String farmID)	Return the farm object base on the farmID.	
Farm []	sortingAscend	(int[] weights, String [] farmID.)	Sort the information in ascending order	
void	caculatePercentage	(int [] farmWeight, int, totalWeight)	Calculate the percentage of the farm to the totalWeight, and store the value in the int[] percentage	

## Farm:

Fields:

Private String farmID	The farmID of the farm.
Private Int [] milkWeight	The array that stores the milk production of different days.
Private String [] date	The array that stores days that collected the milk.

Constructor:

Parameter: requires the farmID of the farm

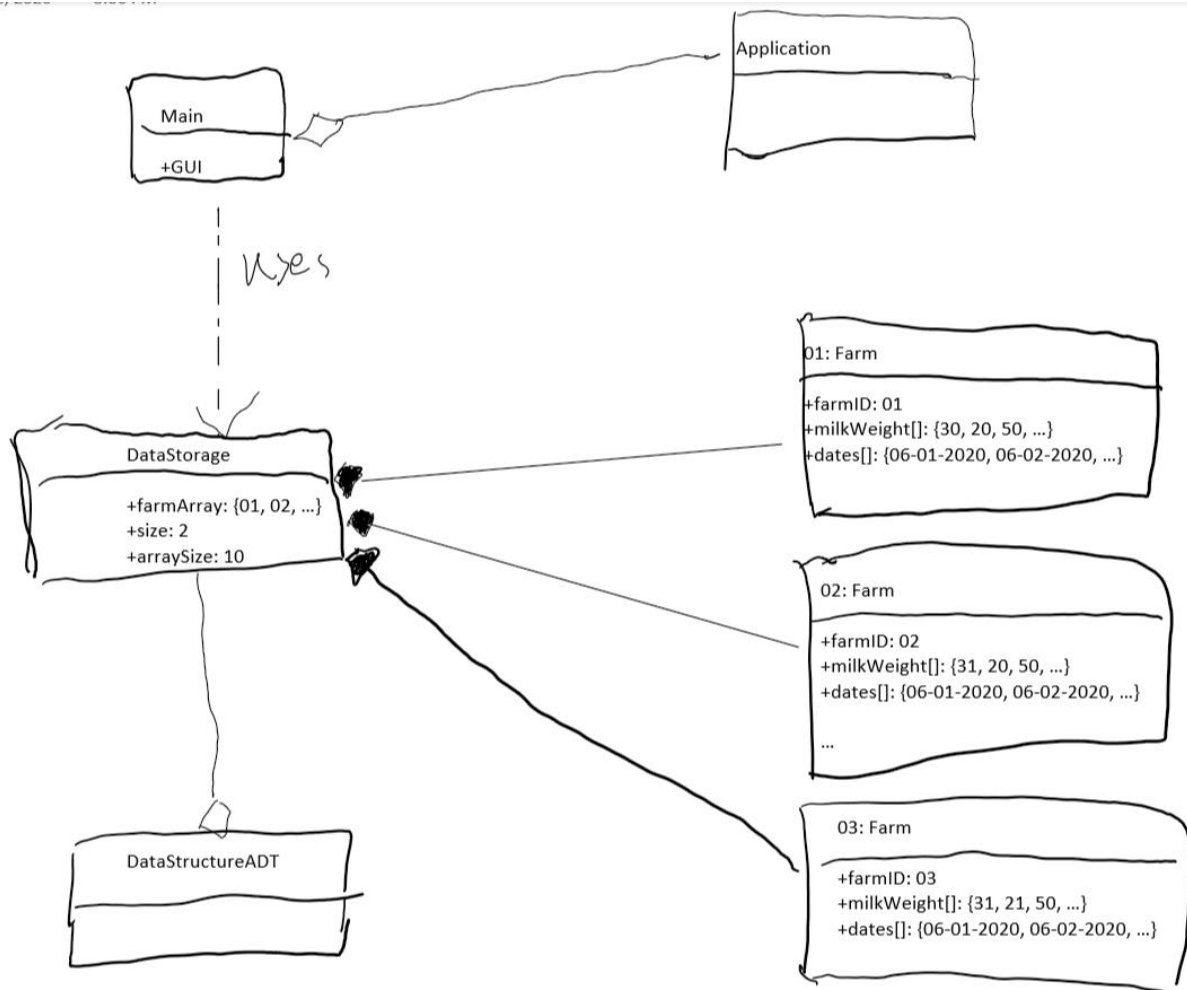
Public method:

Return Type	Method Name	Parameter	Description
int	farmMonthWeight	(String month)	Returns the total milk production of the month
int	farmAnnualWeight	(int year)	Returns the total milk production of the year

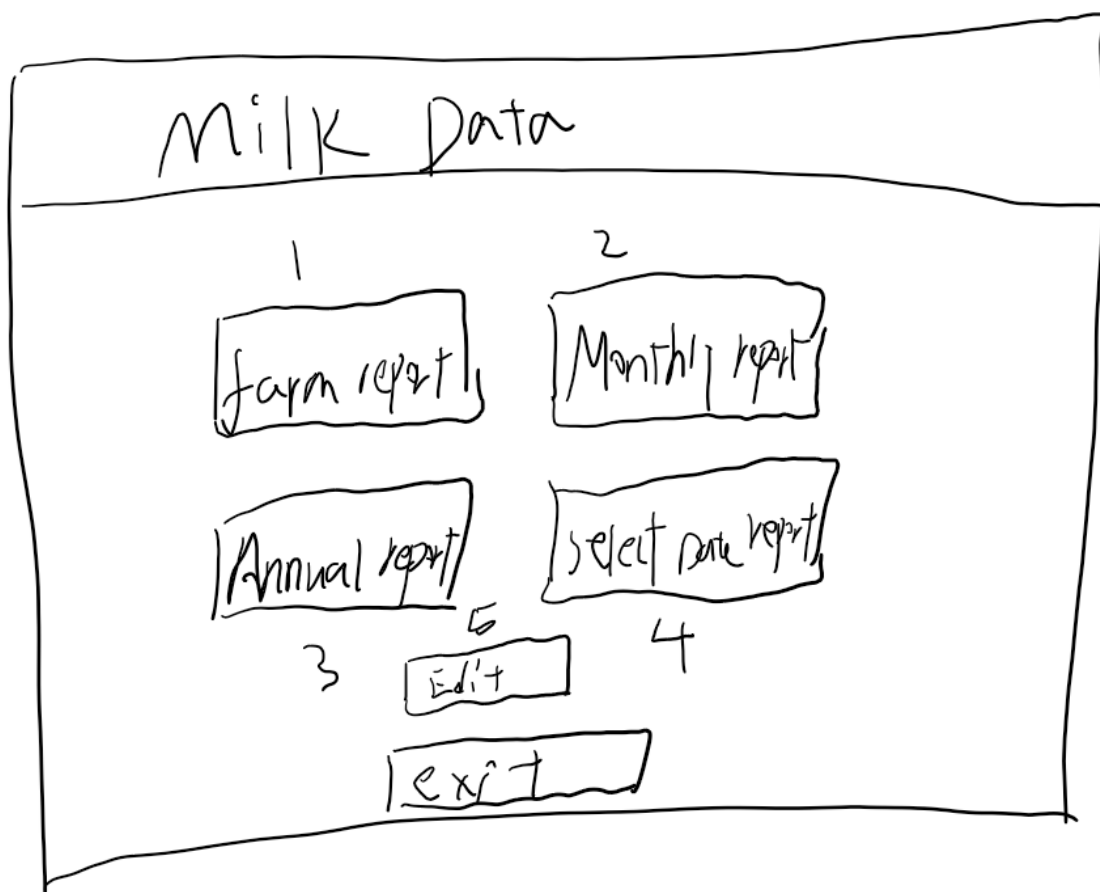
## Main:

Public Method name	Parameter	Return type	Description
start	(stage primaryStage)	Void	Display labels and information of farms
Main			Execute the program

## 4.Object Diagram :



## 5.GUI Sketch:



### 5.1: farm report:

farm report

FarmID:

Year:

farm report

JAN: farm Weight- XX, total Weight - XXX, Percentage: XX%  
FEB: farm Weight- XX, total Weight - XXX, Percentage: XX%  
MAR: farm Weight- XX, total Weight - XXX, Percentage: XX%  
...

## 5.2 Monthly Report:

# monthly report

Year	
------	--

month	
-------	--

Continue
----------

# Monthly Report

Statistics

Ascending

Descending

farmXX, farmWeightXX, totalWeightXX, percentage XX%  
farmXX, farmWeightXX, totalWeightXX, percentage XX%  
farmXX, farmWeightXX, totalWeightXX, percentage XX%  
...

Back to menu

Exit



### 5.3 Annual Report:

Annual Report

Year	
------	--

Continue

Annual Report

Statistics	Ascending <u>Descending</u>
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farmXX, farmWeightXX, totalWeightXX, percentage XX%

farmXX, farmWeightXX, totalWeightXX, percentage XX%

farmXX, farmWeightXX, totalWeightXX, percentage XX%

...

Back to menu Exit

## 5.4 Select Date Report:

A hand-drawn sketch of a form titled "Date Range Report". The form has a header bar with the title. Below the header, there are three input fields: "Start date", "End date", and "Continue". Each input field is represented by a rectangular box with a label on the left and a larger empty space on the right for text entry.

A hand-drawn sketch of a form titled "Date Range Report". The form has a header bar with the title. Below the header, there is a "Start date" input field on the left and an empty rectangular box on the right. In the center, there is a table with three rows of data, each row containing four items: "farmXX", "farmWeightXX", "totalWeightXX", and "percentage XX%". The text in the table is underlined. Below the table, there is an ellipsis "...". At the bottom, there are two buttons: "Back to menu" on the left and "Exit" on the right.

<u>farmXX</u>	<u>farmWeightXX</u>	<u>totalWeightXX</u>	<u>percentage XX%</u>
<u>farmXX</u>	<u>farmWeightXX</u>	<u>totalWeightXX</u>	<u>percentage XX%</u>
<u>farmXX</u>	<u>farmWeightXX</u>	<u>totalWeightXX</u>	<u>percentage XX%</u>

...

## 5.5 Edit:



### 5.5.1 Add Files:

Edit

Enter File Name:

Continue

Edit

Success / failed

Back to menu

## 5.5.2 Add/Remove Farm

Add / Remove farm

Add Remove

Continue

Add / Remove farm

Farm Name:

Continue

Add / Remove farm

Success/failed ...

Back to menu

### 5.5.3 Edit Specific Farm information:

Edit farm

Farm ID:

Date:

Continue

## Edit farm

Change the weight to

Change the date to

Remove this data

## Edit farm

Success/failed

Back to menu