Assessment: Exercise 01

Student Name: Vedant Goswami

Lab Professor Name: Mel Sanschagrin

Section Number: 321

Due Date: 20/5/2022

I will be needed to create two class one named Exercise2 and the second named cabbage, where the Exercise2 is the main class containing most of the execution for constructers and methods . Whereas , the second class will contain the most of the declaration and details of objects, constructor and methods. And also I will be using the Scanners to take input from the user.

There also be use of mathematics in which the Total price will be calculated by multiplication of wight and price per kilograms.

For example, if the weight = x and the price per kilogram = y then the final cost = x\*y.

# Understand the Problem:

## ULM Diagram for the class Cabbage:

# 

# Pseudocode for Method : getWeight(), setWeight(), calculatePrice(), and printReport().

/\*Note: see the given ULM diagram (class Cabbage) for more details about some methods mentioned below.\*/

**getWeight()** //getting weight input

**printWeight()**

**getPrice()** //getting price input

**printPrice()**

**setWeight (num Weight)**

//creation of weight object to store weight input.

**Weight Object = new Weight**

**return**

**setPricePerKilogram(num price**)

//creation of PricePerKilogram object to store PricePerKilogram input.

**PricePerKilogram Object = new PricePerKilogram**

**calculateTotalPrice()**

**declareration of Totalprice**

**num Totalprice**

**Totalprice = Weight \* PricePerKilogram**

//getting price throw the multiplication of both previously created object.

**print price**

**printReport()**

// giving the out-put of all inputted data and calculated information.

**output “ Cabbage Weight =” + Weight + “, Price Per Kilogram=” + PricePerKilogram + “, Total Price =”, Totalprice**

**Stop**

# **Flowcharts** for Method : getWeight(), setWeight(), calculatePrice(), and printReport().

//Note: see the given ULM diagram (class Cabbage) for more details about some variables used in methods.

getWeight()

printWeight()

calculatePrice()

setWeight(num Weight)

declareration of Totalprice

num Totalprice

print price

**Total**price = Weight \* PricePerKilogram

Weight Object = new Weight

return

Stop

printReport()

output “ Cabbage Weight =” + Weight + “, Price Per Kilogram=” + PricePerKilogram “,Total price is ” + TotalPrice

# Algorithm Test plan with Sample Inputs:

|  |  |  |  |
| --- | --- | --- | --- |
| input | Expected output | Actual output | Description |
| 2.95  2.25 | cabbage.getWeight() is: 2.95  cabbage.getPricePerKilogram() is: 2.25  cabbage.calculatePrice() is:6.6375  cabbage.printReport() is:  Cabbage Weight = 2.95, Price Per Kilogram= 2.25  Testing overloaded constructor with anotherCabbage  Weight 3.5, cost per kilogram 2.50  annotherCabbage.printReport() is:  Cabbage Weight = 2.95, Price Per Kilogram= 2.25 | cabbage.getWeight() is: 2.95  cabbage.getPricePerKilogram() is: 2.25  cabbage.calculatePrice() is:6.6375  cabbage.printReport() is:  Cabbage Weight = 2.95, Price Per Kilogram= 2.25  Testing overloaded constructor with anotherCabbage  Weight 3.5, cost per kilogram 2.50  annotherCabbage.printReport() is:  Cabbage Weight = 2.95, Price Per Kilogram= 2.25 | Algorithm test plan Expected output and Actual output are same. |

# Program Test plan with Sample Inputs:

|  |  |  |  |
| --- | --- | --- | --- |
| input | Expected output | Actual output | Description |
| 2.95  2.25 | Enter the weight of cabbage in Kilogram  2.95  Enter the Price Per Kilogram  2.25  Cabbage Weight =2.95,Price Per Kilogram =2.25, Total price=6.6375  Testing overloaded constructor with anotherCabbage  Cabbage Weight =3.5,Price Per Kilogram =2.5, Total price=8.75 | Enter the weight of cabbage in Kilogram  2.95  Enter the Price Per Kilogram  2.25  Cabbage Weight =2.95,Price Per Kilogram =2.25, Total price=6.6375  Testing overloaded constructor with anotherCabbage  Cabbage Weight =3.5,Price Per Kilogram =2.5, Total price=8.75 | Expected out-put of program matches the actual programs output. |
| hunter | Error | Exception in thread "main" java.util.InputMismatchException | As expected the values are expected to be in numerical value so the strings give error |
| 5,v | Error | Exception in thread "main" java.util.InputMismatchException  at java.base/java.util.Scanner.throwFor(Scanner.java:939)  at java.base/java.util.Scanner.next(Scanner.java:1594)  at java.base/java.util.Scanner.nextDouble(Scanner.java:2564)  at cabbage.main(cabbage.java:58) | The second input is expected to be in numeric (double) therefor second input crashes the program |
| -1,3 | Error | Cabbage Weight =-1.0,Price Per Kilogram =5.0, Total price=-5.0 | The program runs completely fine on technical basis; however the negative wight in result is wrong on logical level. |

# Screenshot of Running program: