Lab 7
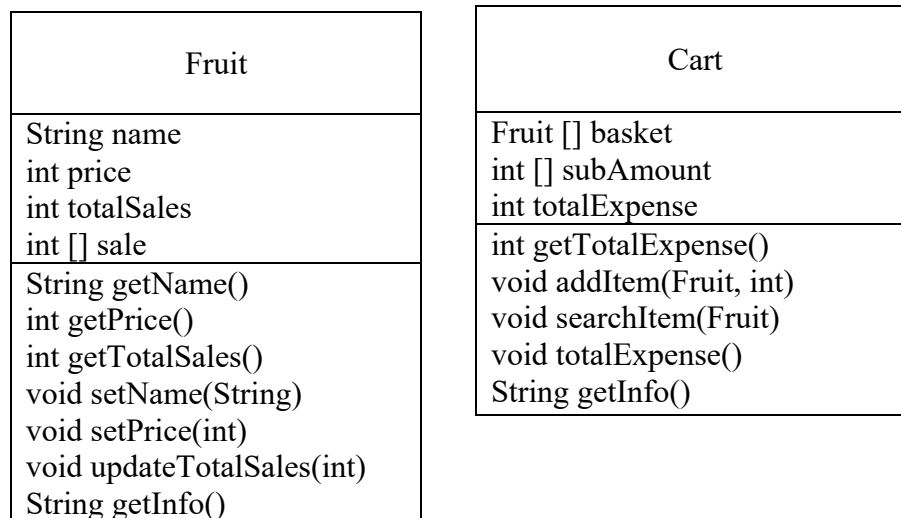
Requirements:
- Create a Java project named yourStudentId_OOP_Lab7
- Read instructions and create classes needed. You are supposed to add 3 classes (2 required + 1 Tester) to the project.
- Note that all instance variables are private. Please use public interfaces to access private variables.
- Your code must be properly formatted with sensible variable names! Refer to the text for code format examples.
- Please import the package you will use.
- The instruction for Tester and outputs is your reference.
- The following diagram describes two class you need to implement.

Fruit	Cart
String name int price int totalSales int [] sale	Fruit [] basket int [] subAmount int totalExpense
String getName() int getPrice() int getTotalSales() void setName(String) void setPrice(int) void updateTotalSales(int) String getInfo()	int getTotalExpense() void addItem(Fruit, int) void searchItem(Fruit) void totalExpense() String getInfo()

1. Create **Fruit** class

Fruit	
Modifier and type	**Method (or Variable) and description**
Instance variable	
String	name The name of the fruit.
int	price The price of the fruit.
int[]	sale The individual sale of the fruit.
int	totalSales The total sales of the fruit.
Constructor	
Fruit(String name, int price) Enable to construct a *Fruit* object with given name, price and an empty array of sale that can store 3 records. Meanwhile, initializes the *totalSales* as 0.	

Instance methods	
-	3 getter for 3 attributes (getName(),getPrice(), and getTotalSales ()). 2 setter for 2 attributes (setName(...), setPrice(...)).
void	updateTotalSales(int amount) Accumulate all sales from different carts. a. Add the value of *amount* to *sale* array. b. Accumulate the *amount* into the *totalSales* attribute.
String	getInfo() a. Return a String contains name, price, individual sale, and total sale of the *Fruit*. b. Individual sale should sort out the sale array from small to large. c. Use *"for-each"* concept to print out the content of sale array. d. You should follow the following formatted layout:

F	r	u	i	t		n	a	m	e	:		A	p	p	l	e	
F	r	u	i	t		p	r	i	c	e	:	1	0				
I	n	d	i	v		s	a	l	e	s	:	5	,		2	0	,
T	o	t	a	l		s	a	l	e	s	:	2	5				

2. Create **Cart** class

Cart	
Modifier and type	**Method (or Variable) and description**
Instance variable	
Fruit[]	basket The shopping basket provides individual consumers to store the purchased products.
int[]	subAmount Record the purchase amount of each product of this consumer.
int	totalExpense Record all consumer spending on this shopping cart.
Constructor	
Cart() Initializes the *basket*, and *subAmount* array that can store 3 records. Meanwhile, set the initial value of *totalExpense* to 0.	
Instance methods	
-	1 getter for 1 attributes (getTotalExpense()).
void	addItem(Fruit fruit, int amount) Store the products and quantities purchased by consumers in respective Arrays. a. Add the fruit to the *basket* array, and add the amount to the *subAmount* array,

void	searchItem(Fruit fruit) Determine whether the consumer buys the *fruit*. a. Use *"for-each"* to determine whether the basket contains the *fruit* object b. If it contains, print *"Your basket has this product."* If not, print *"Your basket does not have this product."*
void	totalExpense() Calculate the expense of the user's current shopping cart. a. Use *"for-loop"* statement to call all the contents in the array. b. Use *"If-else"* statement to determine whether the content stored in the *basket* array is not null, multiply the number of items purchased by the unit price and store the result in the *totalExpense* attribute.
String	getInfo() Print out all costs and details as sample output. a. Use *"for-loop"* concept to print out the content of *basket* and *subAmount* array. b. You should follow the following formatted print out:

respectively.
b. Call *fruit*'s *updateTotalSales* method to update the total sales.

The current expense is:NT$455

N	a	m	e			P	r	i	c	e	(	$	N	T	)			U	n	i	t
A	p	p	l	e	:			1	0					*			2	0		
B	a	n	a	n	a	:		1	2					*			1	5		
O	r	a	n	g	e	:		1	5					*				5		

Tester	Output

``java
public class Tester {
 	
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Fruit apple = new Fruit("Apple",10);
        Fruit banana = new Fruit("Banana",12);
        Fruit orange = new Fruit("Orange",15);
 	
        System.out.println("Shopping cart1 information:");
        Cart cart1 = new Cart();
 	
        cart1.searchItem(apple);
        cart1.addItem(apple, 20);
        cart1.searchItem(apple);
 	
        cart1.addItem(banana, 15);
        cart1.addItem(orange, 5);
        System.out.println();
        System.out.println(...);
 	
        System.out.println("Shopping cart2 information:");
 	
        Cart cart2 = new Cart();
        cart2.addItem(apple, 5);
        System.out.println(...);
 	
        System.out.println("Product Information:");
        System.out.println(...);
    }
 	
}
``
	Shopping cart1 information:
	Your basket does not have this product.
	Your basket has this product.
	
	The current expense is:NT$455
	Name Price($NT) Unit
	Apple : 10 * 20
	Banana: 12 * 15
	Orange: 15 * 5
	
	Shopping cart2 information:
	The current expense is:NT$50
	Name Price($NT) Unit
	Apple : 10 * 5
	
	Product Information:
	Fruit name: Apple
	Fruit price: 10
	Indiv sales: 5, 20,
	Total sales: 25

Submission: Submit your project as **".zip file"** via Moodle. No other submissions will be graded.

Reminder: Please zip the whole project

Deadline: Tomorrow's midnight (for both Mon56 and Tue23)