

# BSc (Hons) in Information Technology Year 1

#### Lab Exercise 10

### IT1050 – Object Oriented Concepts

**Semester 2, 2021** 

#### Objectives:

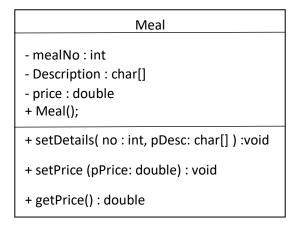
• Using objects as properties of a class.

#### **Exercise 1:**

Consider the following two classes.



In this code let's assume that the relationship is a composition. The Meal cannot exist without an Order object. Here we are working with static objects. In Lecture in Week 13 we will see how to solve a similar problem using dynamic objects (pointers).



```
Order

- orderNo : int
- meals : Meal
- count : int
- maxSize : int

+ Order(pID : int, size: int);
+ addItem( no : int, name: char[], pPrice: double) : void
+ calTotPrice () : void
```

(a) Implement Meal class and the Order class.

In the Order class you may create a pointer of the "Meal" and allocate memory for a given number of objects as an array in the constructor of the Order class.

```
#include "Meal.h"
class Order
{
private:
        int orderID;
        Meal *meals;
        int count;
        int maxSize;

public:
        Order(int pID, int size);
        void addItem(int no, char name[], double pPrice);
        double calTotPrice();
        ~Order(void);
};
```



## BSc (Hons) in Information Technology Year 1

#### Lab Exercise 10

### IT1050 - Object Oriented Concepts

**Semester 2, 2021** 

```
// Constructor of the Order Class
Order::Order(int pID, int size)
       orderID = pID;
    maxSize = size;
       meals = new Meal[size];
       count=0;
}
(b) Implement the methods of the "Meal" and the "Order" classes.
    // addItem() method of "Order" class
    // Here the items will be added to the "Meal" array one by one.
void Order::addItem(int no, char name[], double pPrice)
       if ( count<maxSize)</pre>
            meals[count].setDetails (no, name);
            meals[count].setPrice (pPrice);
            count++;
       else
               cout<<"Cannot enter anymore items " << endl;</pre>
}
```

(c) Implement the main program to create an object of the "Order" class and add 3 items with following details .

Meal No	Description	Price
102	Burger	550.00
114	Sandwich	390.00
215	Fish&chips	450.00