

### Lab Exercise 10

IT1050 – Object Oriented Concepts

Semester 2, 2021

Objectives:

- Using objects as properties of a class.



*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).*

#### Exercise 1:

Consider the following two classes.

Meal
- mealNo : int - Description : char[] - price : double + Meal();
+ setDetails( no : int, pDesc: char[] ) :void + setPrice (pPrice: double) : void + getPrice() : double

Order
- orderNo : int - <b>meals : Meal</b> - 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);
};
  
```

**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)
    {
        meals[count].setDetails (no, name);
        meals[count].setPrice (pPrice);
        count++;
    }
    else
        cout<<"Cannot enter anymore items " << endl;
}
```

( 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