SLIIT
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BSc (Hons) in Information Technology
Year 1

Lab Exercise 8

IT1050 – Object Oriented Concepts **Semester 1, 2023**

Objectives:

- Implementing constructors and destructors
- Creating static and dynamic objects
- Passing objects as arguments

Exercise 1:

A program needs to be developed to calculate the sales done by each sales person at a company. Each sales person should sell two items. The details of the Items are shown below.

Item No	Name	Price(Rs)
1001	Shampoo	550/=
2002	Conditioner	650/=

(a) Create a C++ class and implement the following Item class.

Item
- itemNo : int - name : char[] - price : double
+ Item (pItemNo : int, pName: char) + setPrice (pPrice: double) : void + calcTotal(qty : int) : double + ~Item()

(b) Implement Item class in **Item.cpp**.

i) In the overloaded constructor, set the ItemNo and name to the values in the parameters of the constructor.

ii) In the *setPrice()* method, set the price of the item to pPrice.

iii) The *calcTotal()* method should calculate the total price for the item when the quantity is given as a parameter.

iv) In the destructor, display a message "Item No : XXX deleted" with ItemNo of the object.

(c) Add another class called "SalesPerson" to the project. Implement the following class "SalesPerson" in the **SalesPerson.h** file. You have to include the "Item.h" in to this file.

SalesPerson
- empNo : int - name : char[] -sales : double +SalesPerson(empNo : int, pName: char)
+calcSales (i1: Item, i2: Item) : void +printSales() : void +~SalesPerson()

(d) Implement SalesPerson class in **SalesPerson.cpp**.

i) In the overloaded constructor, set the *empNo* and name to the values in the parameters of the constructor.

ii) In the *calcSales()* method, calculate the *sales* of the two items sent to the method as parameters.

iii) The *PrintSales()* method should display the *empno*, *name* and the *sales* done by the sales person.

iv) In the destructor, display a message "emp No : XXX deleted" with *empNo* of the object.

(e) In the main program do the following;

i) Create a static object of the **SalePerson** class.

ii) Create a two static objects of the **Item** class.

iii) Call the method *setPrice()* to set the prices of the Items.

iv) Calculate the sales for each sales person by calling the *calcSales()* method.

v) Print the sales details by calling the *printSales()* method.

Exercise 2:

Modify the main program create object using dynamic memory allocation and call the methods appropriately to do the task.