



C# BASICS

Training Assignments


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RECORD OF CHANGES

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1.	01/May/2020	Create new	For FA Startup	TuTB	

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CODE:	NPL.M.A011								
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Assignment 11: Generic & Collection

Objectives:

- » Understand and practice with Class, Objects.
- » Understand and practice with Collection and LinQ.
- » Practice code in Visual Studio.
- » Follow coding convention.

Business needs:

- » TBD

Prerequisites:

- » Working environment: Visual Studio.
- » Each exercise is one project inside 1 solution.

Technologies:

The product implements one or more technology:

- » Collection
- » LinQ
- » OOP

Technical Requirements:

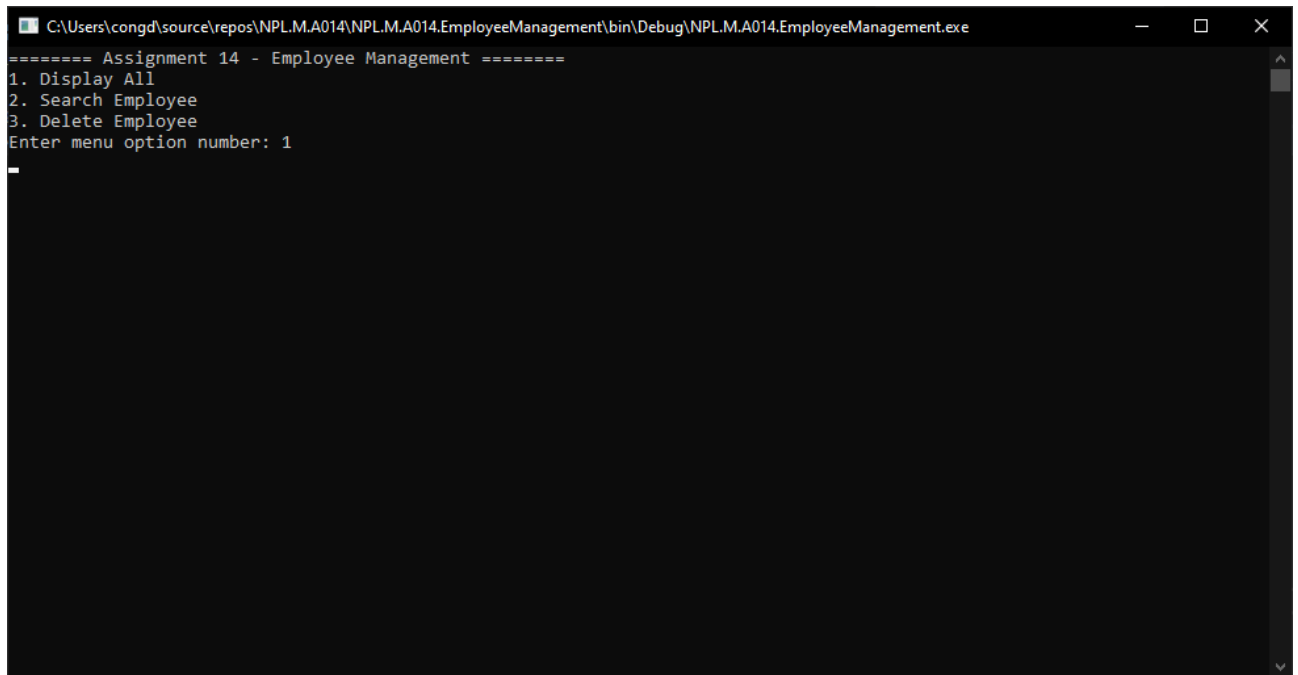
- » Write on console application, comply with Fsoft coding conventions
- » Solution name must be **NPL.M.A011**.
- » Must create a project called **NPL.M.A011.EmployeeManagement** to complete the following exercises

Problem Descriptions:

You need to complete an employee management program. The program allow users to get and delete employee information.

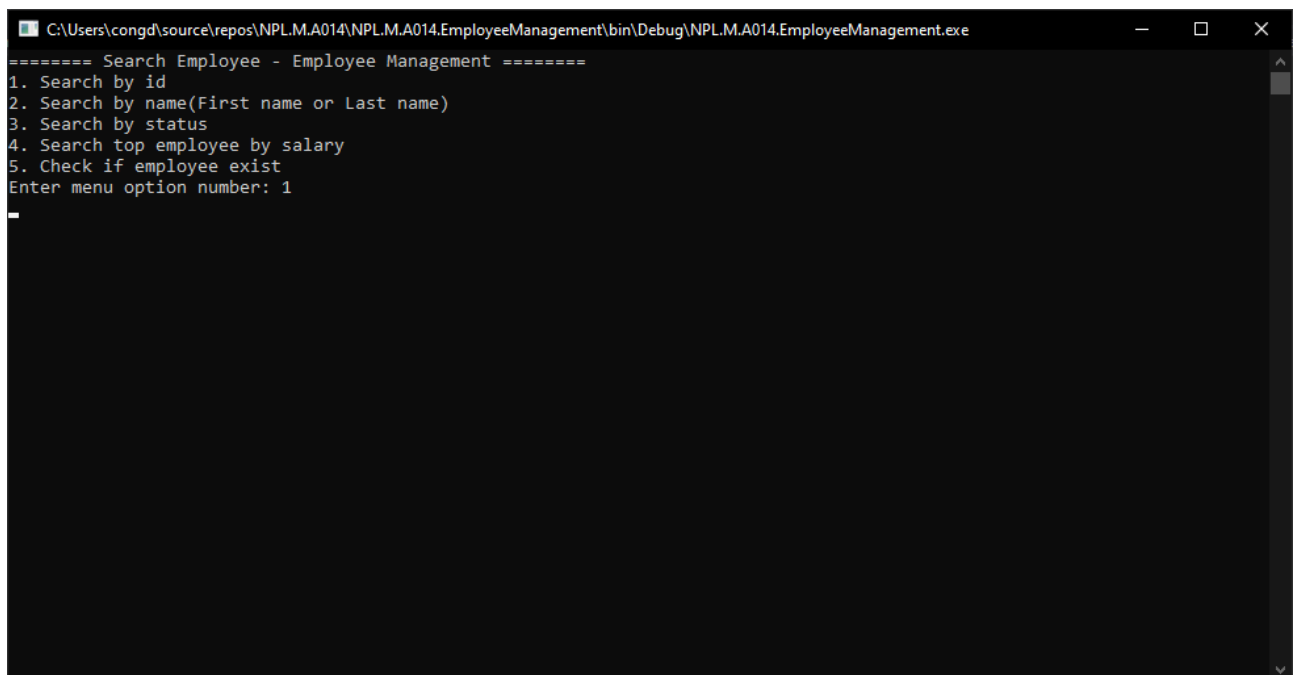
Software Requirement:

The Employee Management system allows users to select a menu-based feature in the console application according to the following requirements:



```
C:\Users\congdl\source\repos\NPL.M.A014\NPL.M.A014.EmployeeManagement\bin\Debug\NPL.M.A014.EmployeeManagement.exe
===== Assignment 14 - Employee Management =====
1. Display All
2. Search Employee
3. Delete Employee
Enter menu option number: 1
1
```

- » Display All: Displays a list of all employees sorted by first name
- » Search Employee: Allows users to choose search on demand as the menu below:



```
C:\Users\congdl\source\repos\NPL.M.A014\NPL.M.A014.EmployeeManagement\bin\Debug\NPL.M.A014.EmployeeManagement.exe
===== Search Employee - Employee Management =====
1. Search by id
2. Search by name(First name or Last name)
3. Search by status
4. Search top employee by salary
5. Check if employee exist
Enter menu option number: 1
1
```

Output:

- Search by id: Allow users to search employee by id.
 - Search by name: Allow users to search employee by first name or last name.
 - Search by status: Allow users to search employee by status.
 - Search top employee by salary: Allow users to search employee by salary.
 - Check if employee exist: Allow users to check if employee exist
-
- » Delete Employee: Allow users to delete an employee by id. Returns a notice of successful or failed removal

1. Exercise 1:

Build Employee class with the following properties:

- Id: int
- FirstName: string
- LastName: string.
- Email: string.
- DateOfBirth: Date.
- Status: bool (0 - working, 1 - out).
- Salary: decimal.
- Level: string.
- DepartmentName: string

2. Exercise 2

Create IEmployeeRepository interface has:

- List<Employee> employees property.
- Employee FindEmployeeById(int id).
- IEnumerable<Employee> FindEmployeesByName(string name).
- IEnumerable<Employee> FindTopEmployeesBySalary(int size).
- IEnumerable<Employee> FindEmployeesByStatus(bool status).
- bool Exist(int id).
- bool Delete(id).

Create 2 classes EmployeeQueryRepository and EmployeeMethodRepository implement IEmployeeRepository interface:

- Create a field: List<Employee> with at least 20 employees.
- Implement all methods of EmployeeQueryRepository using LinQ query
- Implement all methods of EmployeeMethodRepository LinQ method.
- The list of returned employees is sorted by first name.

3. Exercise 3

Complete the Employee Management System using 2 classes above.

Estimated time: 90 mins