LINQ Assignments

**Employee.cs**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace EmpManagement

{

internal class Employee

{

public int EmployeeID { get; set; }

public string FirstName { get; set; }

public string LastName { get; set; }

public string Title { get; set; }

public DateTime DOB { get; set; }

public DateTime DOJ { get; set; }

public string city { get; set; }

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace EmpManagement

{

internal class Program

{

public static List<Employee> empList = new List<Employee>();

static void Main(string[] args)

{

//getAllEmployees();

//getEmployeesNotMumbai();

//getEmpolyeesAsstManager();

//getEmployeesLastNameS();

//getEmployeesBeforeDOJ();

//getEmployeesAfterDOB();

//getEmployeesConsltAsso();

//getEmployeesTotal();

//getEmployeesTotalChennai();

//getEmployeeHighestID();

//getEmployeeAfterDOJ();

//getEmployeesNotAssociate();

//getEmployeesCity();

//getEmployeesCityTitle();

getEmployeesYoungest();

Console.ReadKey();

}

public static void AddEmployee()

{

empList.Add(new Employee { EmployeeID = 1001, FirstName = "Malcolm", LastName = "Daruwalla",

Title = "Manager", DOB = new DateTime(1984,11,16), DOJ = new DateTime(2011,06,08), city = "Mumbai"});

empList.Add(new Employee { EmployeeID = 1002, FirstName = "Asdin", LastName = "Dhalla",

Title = "AsstManager", DOB = new DateTime(1984,08,20), DOJ = new DateTime(2012,07,07), city = "Mumbai"});

empList.Add(new Employee { EmployeeID = 1003, FirstName = "Madhavi", LastName = "Oza",

Title = "Consultant", DOB = new DateTime(1987,11,14), DOJ = new DateTime(2015,04,12), city = "Pune"});

empList.Add(new Employee { EmployeeID = 1004, FirstName = "Saba", LastName = "Shaikh",

Title = "SE ", DOB = new DateTime(1990,06,03), DOJ = new DateTime(2016,02,02), city = "Pune"});

empList.Add(new Employee { EmployeeID = 1005, FirstName = "Nazia", LastName = "Shaikh",

Title = "SE ", DOB = new DateTime(1991,03,08), DOJ = new DateTime(2016,02,02), city = "Mumbai"});

empList.Add(new Employee { EmployeeID = 1006, FirstName = "Amit", LastName = "Pathak",

Title = "Consultant", DOB = new DateTime(1989,11,07), DOJ = new DateTime(2014,08,08), city = "Chennai"});

empList.Add(new Employee { EmployeeID = 1007, FirstName = "Vijay", LastName = "Natrjan",

Title = "Consultant", DOB = new DateTime(1989,12,02), DOJ = new DateTime(2015,06,01), city = "Mumbai"});

empList.Add(new Employee { EmployeeID = 1008, FirstName = "Rahul", LastName = "Dubey",

Title = "Associate", DOB = new DateTime(1993,11,11), DOJ = new DateTime(2011,06,08), city = "Chennai"});

empList.Add(new Employee { EmployeeID = 1009, FirstName = "Suresh", LastName = "Mistry",

Title = "Associate", DOB = new DateTime(1992,08,12), DOJ = new DateTime(2014,12,03), city = "Chennai"});

empList.Add(new Employee { EmployeeID = 1010, FirstName = "Sumit", LastName = "Shah",

Title = "Manager", DOB = new DateTime(1991,04,12), DOJ = new DateTime(2016,01,02), city = "Pune"});

}

public static void getAllEmployees()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

select emp;

foreach(var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}",emp.EmployeeID,emp.FirstName,emp.LastName,

emp.Title,emp.DOB.ToShortDateString(),emp.DOJ.ToShortDateString(),emp.city);

}

}

public static void getEmployeesNotMumbai()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.city != "Mumbai"

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmpolyeesAsstManager()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.Title == "AsstManager"

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesLastNameS()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

//where emp.LastName.Substring(0, 1) == "S"

where emp.LastName.StartsWith("S")

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesBeforeDOJ()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.DOJ < new DateTime(2015,01,01)

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesAfterDOB()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.DOB > new DateTime(1990, 01, 01)

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesConsltAsso()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.Title == "Consultant" || emp.Title == "Associate"

select emp;

foreach(var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesTotal()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

select emp;

int x = employee.Count();

Console.WriteLine("Total number of Employees is " + x);

}

public static void getEmployeesTotalChennai()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.city == "Chennai"

select emp;

int x = employee.Count();

Console.WriteLine("Total number of Employees in Chennai is " + x);

}

public static void getEmployeeHighestID()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

select emp;

int x = employee.Max(e => e.EmployeeID);

Console.WriteLine("Highest Employee ID is " + x);

}

public static void getEmployeeAfterDOJ()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.DOJ > new DateTime(2015, 01, 01)

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesNotAssociate()

{

AddEmployee();

IEnumerable<Employee> employee = from emp in empList

where emp.Title != "Associate"

select emp;

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

public static void getEmployeesCity()

{

AddEmployee();

var employee = from emp in empList

group emp by emp.city

into cityGrp

select new { CITY = cityGrp.Key , COUNT = cityGrp.Count() };

foreach (var result in employee)

{

Console.Write("Number of Employees in " +result.CITY + " --> ");

Console.WriteLine(result.COUNT);

}

}

public static void getEmployeesCityTitle()

{

AddEmployee();

var employee = empList.GroupBy(emp => new { emp.city, emp.Title }).Select(e => new {

disnt = e.Select(l => l.EmployeeID).Distinct().Count()

});

foreach (var i in employee)

{

Console.WriteLine(i.disnt);

}

}

public static void getEmployeesYoungest()

{

AddEmployee();

IEnumerable<Employee> employee = (from emp in empList

orderby emp.DOB descending

select emp).Take(1);

foreach (var emp in employee)

{

Console.WriteLine("{0}\t{1}\t{2} \t{3} \t\t{4}\t{5}\t{6}", emp.EmployeeID, emp.FirstName, emp.LastName,

emp.Title, emp.DOB.ToShortDateString(), emp.DOJ.ToShortDateString(), emp.city);

}

}

}

}