NB Healthcare Technologies Pvt Ltd

Day 22 Morning Assignment (22 – Feb- 2022)
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3 Layered Architecture : C# Project

Employee Management Application

1) Add Employee
2) SearchEmployee(By Id, Name)
3) Display All Employees

Employee Id (Should not be negative,int)(should not add existing id)
Employee Name(min 3 characters)
Employee Salary(min. 10000)
Employee Age(age >= 18 and age <= 58)

Employees.txt <--- Saved in a file

1) UI / Presentation Layer (Client App)
2) BLL Layer (Business Logic Layer) (Class Library)
3) DAL Layer (Data Access Layer) (Save data into a file or database)

3. DAL Layer (Data Access Layer) (Save data into a file or database

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.IO;

namespace DataAccessLayer
{
    public static class EmployeeDAL
```

```
    {
        public static string filePath = "E:\\Files\\Employees.txt";
        public static bool AddEmployee(int empId,string empName,int
empSalary, int empAge)
        {
            try
            {
                string textContent = string.Concat(empId, ",", empName, ",",
empSalary, ",", empAge);
                File.AppendAllText(filePath, textContent +
Environment.NewLine);
                return true;
            }
            catch
            {
                return false;
            }

        }
        public static List<String> GetEmployeesById(int id)
        {
            var allEmployees = File.ReadAllLines(filePath);
            bool isFound = false;
            List<String> employeeFound = new List<String>();

            foreach(string employee in allEmployees)
            {
                var empDetails = employee.Split(',');
                if(Convert.ToInt32(empDetails[0]) == id)
                {
                    isFound = true;
                    employeeFound .Add(employee);
                    break;
                }
            }
            return employeeFound;
        }

        public static List<String> GetEmployeesByName(string name)
        {
            var allEmployees = File.ReadAllLines(filePath);
            bool isFound = false;
            List<String> employeeFound = new List<String>();

            foreach (string employee in allEmployees)
            {
                var empDetails = employee.Split(',');
                if (empDetails[1].Contains(name))
                {
                    employeeFound.Add(employee);
                }
            }
            return employeeFound;
        }
```

```
        public static string[] GetAllEmployees()
        {
            var allEmployees = File.ReadAllLines(filePath);
            return allEmployees;
        }



    }
}
```

2) BLL Layer (Business Logic Layer) (Class Library)

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using DataAccessLayer;

namespace BusinessLogicLibrary
{
    public class EmployeeBLL
    {
        public static bool AddEmployee(int empId, string empName, int
empSalary, int empAge)
        {
            //To Do Add Validations

            //If all validations are successful then call DAL

            var result = EmployeeDAL.AddEmployee(empId, empName, empSalary,
empAge);
            return result;
        }
        public static List<String> GetEmployeesById(int id)
        {
            var result = EmployeeDAL.GetEmployeesById(id);
            return result;
        }

        public static List<String> GetEmployeesByName(string name)
        {
            var result = EmployeeDAL.GetEmployeesByName(name);
            return result;
        }

        public static string[] GetAllEmployees()
        {
            var result = EmployeeDAL.GetAllEmployees();
            return result;
```

```
        }


    }
}
```

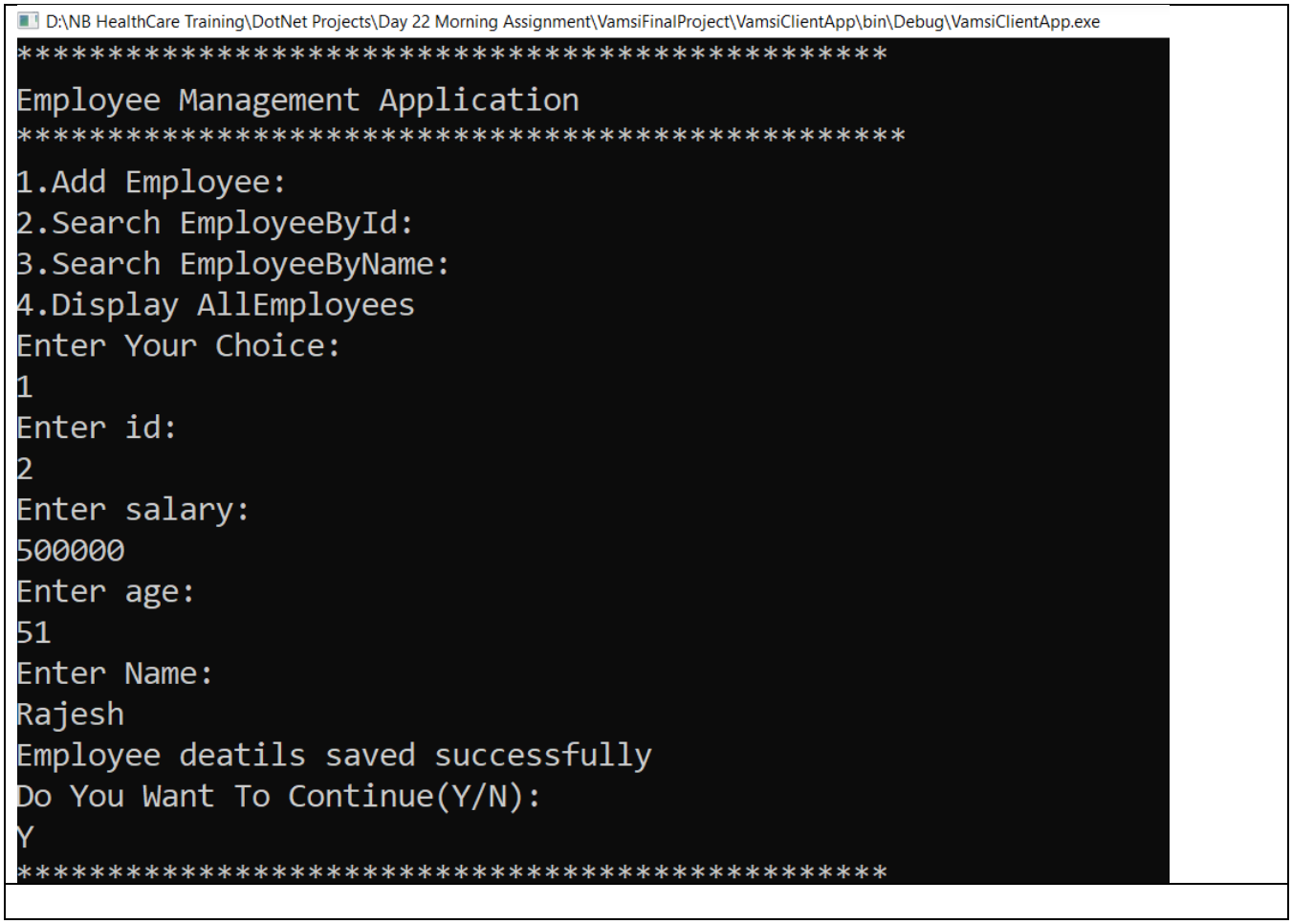
1) UI / Presentation Layer (Client App)

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using BusinessLogicLibrary;

namespace VamsiClientApp
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int ch;
            string choice;
            do
            {

Console.WriteLine("************************************************");
                Console.WriteLine("Employee Management Application");

Console.WriteLine("************************************************");

                Console.WriteLine("1.Add Employee:");
                Console.WriteLine("2.Search EmployeeById:");
                Console.WriteLine("3.Search EmployeeByName:");
                Console.WriteLine("4.Display AllEmployees");
                Console.WriteLine("Enter Your Choice:");

                ch = Convert.ToInt32(Console.ReadLine());
                switch (ch)
                {
                    case 1:
                        AddEmployee();
                        break;

                    case 2:
                        SearchEmployeeById();
                        break;

                    case 3:
                        SearchEmployeeByName();
```

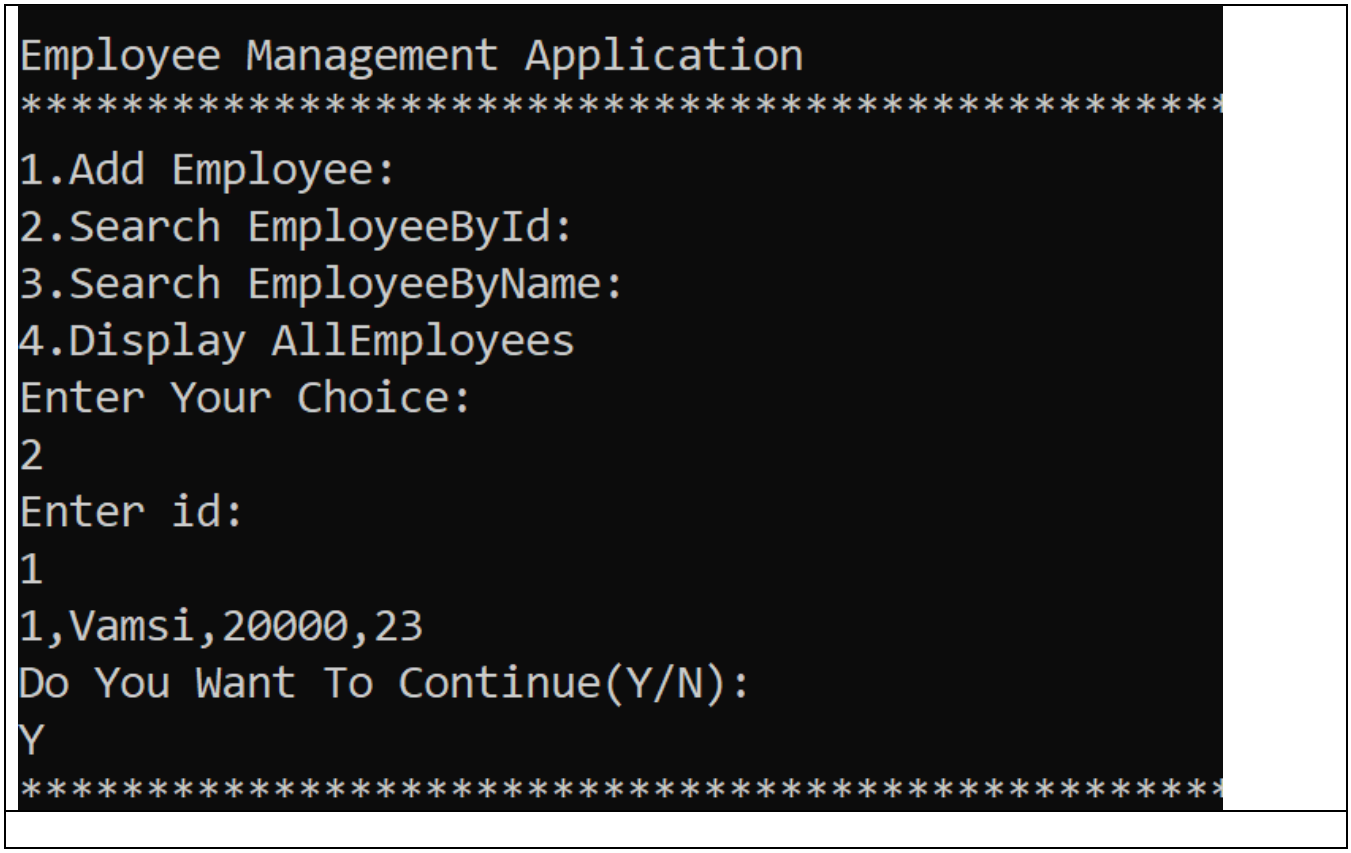
```
                    break;
                case 4:
                    DisplayAllEmployees();
                    break;

                default:
                    Console.WriteLine("Invalid Option");
                    break;

            }

            Console.WriteLine("Do You Want To Continue(Y/N):");
            choice = Console.ReadLine();

        } while (choice.Equals("Y"));
    }
    public static void AddEmployee()
    {
        int id, salary, age;
        string name;
        Console.WriteLine("Enter id:");
        id = Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter salary:");
        salary = Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter age:");
        age = Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter Name:");
        name = Console.ReadLine();

        //Call By Method
        var result = EmployeeBLL.AddEmployee(id, name, salary, age);
        if(result)
        {
            Console.WriteLine("Employee deatils saved successfully");
        }
        else
        {
            Console.WriteLine("Some error occured");
        }
    }

    public static void SearchEmployeeById()
    {
        int id;
        Console.WriteLine("Enter id:");
        id = Convert.ToInt32(Console.ReadLine());

        var result = EmployeeBLL.GetEmployeesById(id);
        if(result.Count == 0)
        {
            Console.WriteLine("No records exit with this id");
        }
        else
        {
```

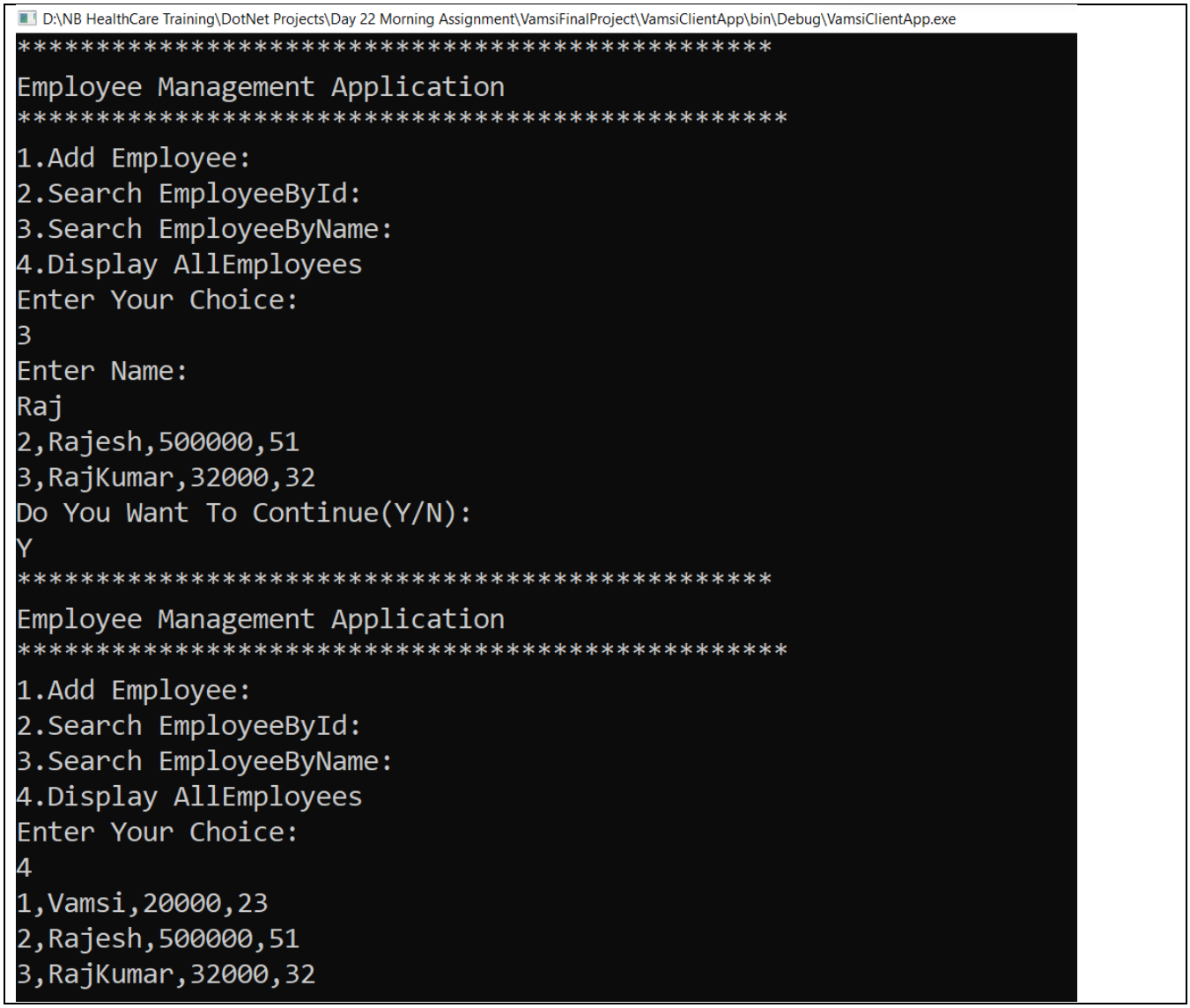
```
                result.ForEach(p => Console.WriteLine(p));
            }
        }

        public static void SearchEmployeeByName()
        {
            string name;
            Console.WriteLine("Enter Name:");
            name = Console.ReadLine();
            var result = EmployeeBLL.GetEmployeesByName(name);
            if (result.Count == 0)
            {
                Console.WriteLine("No records exit with this name");
            }
            else
            {
                result.ForEach(p => Console.WriteLine(p));
            }
        }

        public static void DisplayAllEmployees()
        {
            var employees = EmployeeBLL.GetAllEmployees();
            foreach (var employee in employees)
            {
                Console.WriteLine(employee);
            }
        }
    }
}
```

Output:


D:\NB HealthCare Training\DotNet Projects\Day 22 Morning Assignment\VamsiFinalProject\VamsiClientApp\bin\Debug\VamsiClientApp.exe
****
Employee Management Application
****
1.Add Employee:
2.Search EmployeeById:
3.Search EmployeeByName:
4.Display AllEmployees
Enter Your Choice:
1
Enter id:
2
Enter salary:
500000
Enter age:
51
Enter Name:
Rajesh
Employee deatils saved successfully
Do You Want To Continue(Y/N):
Y
****

```
**********************************************************
Employee Management Application
**********************************************************
1.Add Employee:
2.Search EmployeeById:
3.Search EmployeeByName:
4.Display AllEmployees
Enter Your Choice:
1
Enter id:
3
Enter salary:
32000
Enter age:
32
Enter Name:
RajKumar
Employee deatils saved successfully
Do You Want To Continue(Y/N):
Y
**********************************************************
```


Employee Management Application
****
1.Add Employee:
2.Search EmployeeById:
3.Search EmployeeByName:
4.Display AllEmployees
Enter Your Choice:
2
Enter id:
1
1,Vamsi,20000,23
Do You Want To Continue(Y/N):
Y
****


D:\NB HealthCare Training\DotNet Projects\Day 22 Morning Assignment\VamsiFinalProject\VamsiClientApp\bin\Debug\VamsiClientApp.exe
****
Employee Management Application
****
1.Add Employee:
2.Search EmployeeById:
3.Search EmployeeByName:
4.Display AllEmployees
Enter Your Choice:
3
Enter Name:
Raj
2,Rajesh,500000,51
3,RajKumar,32000,32
Do You Want To Continue(Y/N):
Y
****
Employee Management Application
****
1.Add Employee:
2.Search EmployeeById:
3.Search EmployeeByName:
4.Display AllEmployees
Enter Your Choice:
4
1,Vamsi,20000,23
2,Rajesh,500000,51
3,RajKumar,32000,32