

# Feb 1st Morning Assignment

By Surya Teja Chandolu

1. Create Employee class with three variables and two methods ReadEmployee and PrintEmployee and create an object and call methods.

## Code:

```
using System;

/*****
* Author: Surya Teja
* Purpose: Create Employee class with three variables and two methods
ReadEmployee and PrintEmployee and create an object and call methods.
* *****/

namespace Employee
{
    class Employee
    {
        public int id;
        public string name;
        public int salary;

        public void ReadData()
        {
            Console.Write("Enter Employee Id: ");
            id = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter Employee Name: ");
            name = Console.ReadLine();
            Console.Write("Enter Employee Salary: ");
            salary = Convert.ToInt32(Console.ReadLine());
        }

        public void PrintData()
        {
            Console.WriteLine($"Employee Id: {id}, Employee Name: {name},
Employee Salary: {salary}.");
        }
    }

    internal class Program
    {
        static void Main(string[] args)
        {
            Employee emp = new Employee();

            emp.ReadData();
            emp.PrintData();

            Console.ReadLine();
        }
    }
}
```

## Output:

```
S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\Emp
Enter Employee Id: 02
Enter Employee Name: Surya
Enter Employee Salary: 25000

Employee Id: 2, Employee Name: Surya, Employee Salary: 25000.
```

2. Write the 3 def of class and 4 points about object discussed in the class.

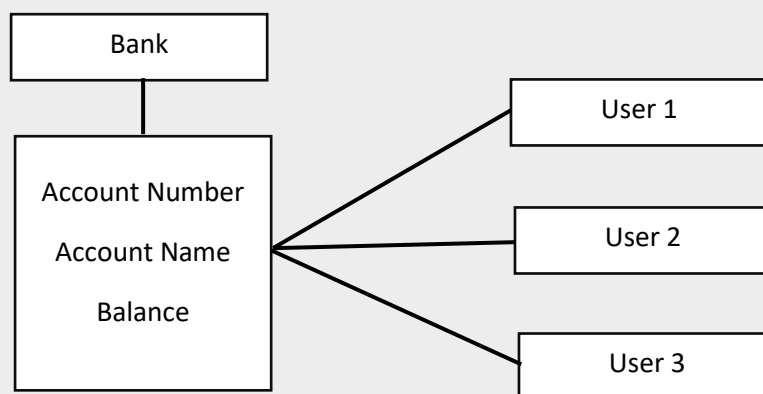
**Class:**

- Class is group of variables and methods.
- Class is blue print to create objects.
- Class consists of state and behaviour.

**Object:**

- Object is an instance of class.
- Class can have many number of objects.
- Object occupy memory.
- Object are reference type.

3. Pictorially represent class and multiple objects



#### 4. Create below classes:

- Customer
- Product
- Seller
- Department

Code:

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

/*****
* Author: Surya Teja
* Purpose: Create below classes:
    • Customer
    • Product
    • Seller
    • Department
* *****/

namespace Shopping
{
    class Customer
    {
        private int customerId;
        private string customerName;
        private string customerEmail;

        public void ReadCustomerData()
        {
            Console.Write("Enter Customer Id: ");
            customerId = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter Customer Name: ");
            customerName = Console.ReadLine();
            Console.Write("Enter Customer Email: ");
            customerEmail = Console.ReadLine();
        }

        public void PrintCustomerData()
        {
            Console.WriteLine($"{customerName}, Customer Email: {customerEmail}");
        }
    }

    class Product
    {
        private string productName;
        private int productPrice;
        private string productType;

        public void ReadProductData()
        {
            Console.Write("Enter Product Name: ");
            productName = Console.ReadLine();
            Console.Write("Enter Product Price: ");
            productPrice = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter Product Type: ");
            productType = Console.ReadLine();
        }
    }
}
```

```

        public void PrintProductData()
        {
            Console.WriteLine($"Product Name: {productName}, Product Price: {productPrice}, Product Type: {productType}.");
        }
    }

    class Seller
    {
        private int sellerId;
        private string sellerName;
        private string sellerAddress;

        public void ReadSellerData()
        {
            Console.Write("Enter Seller Id: ");
            sellerId = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter Seller Name: ");
            sellerName = Console.ReadLine();
            Console.Write("Enter Seller Address: ");
            sellerAddress = Console.ReadLine();
        }

        public void PrintSellerData()
        {
            Console.WriteLine($"Seller Id: {sellerId}, Seller Name: {sellerName}, Seller Address: {sellerAddress}.");
        }
    }

    class Department
    {
        private int departmentId;
        private string departmentName;
        private string departmentType;

        public void ReadDepartmentData()
        {
            Console.Write("Enter Department Id: ");
            departmentId = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter Department Name: ");
            departmentName = Console.ReadLine();
            Console.Write("Enter Department Type: ");
            departmentType = Console.ReadLine();
        }

        public void PrintDepartmentData()
        {
            Console.WriteLine($"Department Id: {departmentId}, Department Name: {departmentName}, Department Type: {departmentType}.");
        }
    }

    internal class Program
    {
        static void Main(string[] args)
        {
            Customer cm = new Customer();
            Console.WriteLine("-----Customer Details-----");
            cm.ReadCustomerData();
            cm.PrintCustomerData();

            Product pd = new Product();

```

```

        Console.WriteLine("\n-----Product Details-----");
        pd.ReadProductData();
        pd.PrintProductData();

        Seller sl = new Seller();
        Console.WriteLine("\n-----Seller Details-----");
        sl.ReadSellerData();
        sl.PrintSellerData();

        Department dp = new Department();
        Console.WriteLine("\n-----Department Details-----");
        dp.ReadDepartmentData();
        dp.PrintDepartmentData();

        Console.ReadLine();
    }
}

```

#### Output:

```

S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\Shopping\bin\Debug\Shopping.exe
-----Customer Details-----
Enter Customer Id: 1
Enter Customer Name: Surya
Enter Customer Email: Surya@gmail

Customer Id: 1, Customer Name: Surya, Customer Email: Surya@gmail.

-----Product Details-----
Enter Product Name: 2
Enter Product Price: 2500
Enter Product Type: Shoes

Product Name: 2, Product Price: 2500, Product Type: Shoes.

-----Seller Details-----
Enter Seller Id: 3
Enter Seller Name: ABC
Enter Seller Address: ABC, Hyderabad

Seller Id: 3, Seller Name: ABC, Seller Address: ABC, Hyderabad.

-----Department Details-----
Enter Department Id: 4
Enter Department Name: ABCProducts
Enter Department Type: Manufacturer

Department Id: 4, Department Name: ABCProducts, Department Type: Manufacturer.

```

5. Create Employee class with 3 public variables. Create Employee object and initialize with values while creating object and print the values.

Code:

```
using System;

/*****
* Author: Surya Teja
* Purpose: Create Employee class with 3 public variables. Create Employee
object and initialize with values while creating object and print the values.
* *****/

namespace EmployeeDetails
{
    class Employee
    {
        public int id;
        public string name;
        public int age;
        public int salary;

        public void ReadData()
        {
            Console.WriteLine("Enter Employee Id: ");
            id = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter Employee Name: ");
            name = Console.ReadLine();
            Console.WriteLine("Enter Employee Age: ");
            age = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter Employee Salary: ");
            salary = Convert.ToInt32(Console.ReadLine());
        }

        public void PrintData()
        {
            Console.WriteLine($"Employee Id: {id}, Employee Name: {name},
Employee Age: {age}, Employee Salary: {salary}.");
        }
    }

    internal class Program
    {
        static void Main(string[] args)
        {
            Employee e = new Employee() { id = 2, name = "Surya", age = 22,
salary = 2000 };
            Console.WriteLine($"Employee Id: {e.id}, Employee Name: {e.name},
Employee Age: {e.age}, Employee Salary: {e.salary}.");

            Console.ReadLine();
        }
    }
}
```

Output:

```
S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\EmployeeDetails\bin\Debug\EmployeeDet
Employee Id: 2, Employee Name: Surya, Employee Age: 22, Employee Salary: 2000.
```

6. Create Employee class as shown below:

```
class Employee
{
    public int id;
    public string name;
    public int salary;
}
```

now create employees array object and initialize with 5 employees  
write code using

- a. for loop
- b. foreach loop
- c. lambda expression

Code:

```
using System;

/*****
* Author: Surya Teja
* Purpose: Create Employee class and create employees array object and
initialize with 5 employees write code using
    a. for loop
    b. foreach loop
    c. lambda expressions
* *****/

namespace PrintDataUsingLoops
{
    class Employee
    {
        public int id;
        public string name;
        public int salary;
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Employee[] emp = new Employee[]
            {
                new Employee() { id = 1, name = "Surya", salary = 2000 },
                new Employee() { id = 2, name = "Bhanu", salary = 3000 },
                new Employee() { id = 3, name = "Prudhvi", salary = 4000 },
                new Employee() { id = 4, name = "Ram Charan", salary = 5000 },
                new Employee() { id = 5, name = "Joe", salary = 6000 }
            };

            Console.WriteLine("-----ForLoop-----");
            for (int i = 0; i < emp.Length; i++)
                Console.WriteLine($"Employee id: {emp[i].id}, Employee Name: {emp[i].name}, Employee Salary: {emp[i].salary}.");

            Console.WriteLine("\n-----ForEachLoop-----");
            foreach (Employee e in emp)
                Console.WriteLine($"Employee id: {e.id}, Employee Name: {e.name}, Employee Salary: {e.salary}.");

            Console.WriteLine("\n-----LambdaExpression-----");
            emp.ToList().ForEach(e => Console.WriteLine($"Employee id: {e.id}, Employee Name: {e.name}, Employee Salary: {e.salary}."));

            Console.ReadLine();
        }
    }
}
```

```
}  
}
```

#### Output:

```
S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\PrintDataUsingLoops\bin\Debug\Pri  
-----ForLoop-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 2000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 3000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 4000.  
Employee id: 4, Employee Name: Ram Charan, Employee Salary: 5000.  
Employee id: 5, Employee Name: Joe, Employee Salary: 6000.  
-----ForEachLoop-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 2000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 3000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 4000.  
Employee id: 4, Employee Name: Ram Charan, Employee Salary: 5000.  
Employee id: 5, Employee Name: Joe, Employee Salary: 6000.  
-----LambdaExpression-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 2000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 3000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 4000.  
Employee id: 4, Employee Name: Ram Charan, Employee Salary: 5000.  
Employee id: 5, Employee Name: Joe, Employee Salary: 6000.
```



7. For the above project, write code to print employees who is getting salary  $\geq 5000$  using
- for loop
  - foreach loop
  - lambda expression

Code:

```
using System;

/*****
* Author: Surya Teja
* Purpose: Create Employee class and create employees array object and
initialize with 5 employees and print who is getting salary  $\geq 5000$  using
a. for loop
b. foreach loop
c. lambda expressions
* *****/

namespace PrintDataUsingLoops
{
    class Employee
    {
        public int id;
        public string name;
        public int salary;
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Employee[] emp = new Employee[]
            {
                new Employee() { id = 1, name = "Surya", salary = 10000 },
                new Employee() { id = 2, name = "Bhanu", salary = 8000 },
                new Employee() { id = 3, name = "Prudhvi", salary = 6000 },
                new Employee() { id = 4, name = "Ram Charan", salary = 4000 },
                new Employee() { id = 5, name = "Joe", salary = 2000 }
            };

            Console.WriteLine("-----ForLoop-----");
            for (int i = 0; i < emp.Length; i++)
            {
                if(emp[i].salary >= 5000)
                    Console.WriteLine($"Employee id: {emp[i].id}, Employee
Name: {emp[i].name}, Employee Salary: {emp[i].salary}.");
            }

            Console.WriteLine("\n-----ForEachLoop-----");
            foreach (Employee e in emp)
            {
                if(e.salary >= 5000)
                    Console.WriteLine($"Employee id: {e.id}, Employee Name:
{e.name}, Employee Salary: {e.salary}.");
            }

            Console.WriteLine("\n-----LambdaExpression-----");
            emp.ToList().Where(e => e.salary >= 5000).ToList().ForEach(e =>
Console.WriteLine($"Employee id: {e.id}, Employee Name: {e.name}, Employee
Salary: {e.salary}."));

            Console.ReadLine();
        }
    }
}
```

```
}  
}
```

#### Output:

```
S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\PrintDataUsingLoops  
-----ForLoop-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 10000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 8000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 6000.  
-----ForEachLoop-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 10000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 8000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 6000.  
-----LambdaExpression-----  
Employee id: 1, Employee Name: Surya, Employee Salary: 10000.  
Employee id: 2, Employee Name: Bhanu, Employee Salary: 8000.  
Employee id: 3, Employee Name: Prudhvi, Employee Salary: 6000.
```

8. Similar to 6 and 7 projects create list of Customer and Product Arrays and practice a.
- a. For
  - b. Foreach
  - c. lambda expression

Code:

```
using System;

/*****
* Author: Surya Teja
* Purpose: Create list of Customer and Product Arrays and practice a.
    a. For
    b. Foreach
    c. lambda expression
* *****/

namespace LoopsPractice
{
    class Customer
    {
        public int customerId;
        public string customerName;
        public string customerEmail;
    }

    class Product
    {
        public string productName;
        public int productPrice;
        public string productBrand;
    }

    internal class Program
    {
        static void Main(string[] args)
        {
            Customer[] cm = new Customer[]
            {
                new Customer(){ customerId = 1, customerName = "Surya",
customerEmail = "Surya@gmail"},
                new Customer(){ customerId = 2, customerName = "Bhanu",
customerEmail = "Bhanu@gmail"},
                new Customer(){ customerId = 3, customerName = "Prudhvi",
customerEmail = "Prudhvi@gmail"},
                new Customer(){ customerId = 4, customerName = "Ram Charan",
customerEmail = "RamCharan@gmail"},
                new Customer(){ customerId = 5, customerName = "Joe",
customerEmail = "Joe@gmail"}
            };

            Product[] pm = new Product[]
            {
                new Product(){ productName = "Shoes", productPrice = 5000,
productBrand = "Nike"},
                new Product(){ productName = "Mobile", productPrice = 50000,
productBrand = "Samsung"},
                new Product(){ productName = "Laptop", productPrice = 100000,
productBrand = "Dell"},
                new Product(){ productName = "Watch", productPrice = 15000,
productBrand = "GShock"},
                new Product(){ productName = "Cap", productPrice = 2000,
productBrand = "Adidas"}
            }
        }
    }
}
```

```

    };

    Console.WriteLine("\n-----ForLoop-----Customer-----");
    for (int i = 0; i < cm.Length; i++)
        Console.WriteLine($"Customer Id: {cm[i].customerId}, Customer
Name: {cm[i].customerName}, Customer Email: {cm[i].customerEmail}.");

    Console.WriteLine("\n-----ForLoop-----Product-----");
    for (int i = 0; i < pm.Length; i++)
        Console.WriteLine($"Product Name: {pm[i].productName},
Product Price: {pm[i].productPrice}, Product Brand: {pm[i].productBrand}.");

    Console.WriteLine("\n-----ForEachLoop-----Customer-----
");
    foreach (var c in cm)
        Console.WriteLine($"Customer Id: {c.customerId}, Customer
Name: {c.customerName}, Customer Email: {c.customerEmail}.");

    Console.WriteLine("\n-----ForEachLoop-----Product-----");
    foreach (var p in pm)
        Console.WriteLine($"Product Name: {p.productName}, Product
Price: {p.productPrice}, Product Brand: {p.productBrand}.");

    Console.WriteLine("\n-----LambdaExpression-----Customer-----
---");
    cm.ToList().ForEach(c => Console.WriteLine($"Customer Id:
{c.customerId}, Customer Name: {c.customerName}, Customer Email:
{c.customerEmail}."));

    Console.WriteLine("\n-----LambdaExpression-----Product-----
--");
    pm.ToList().ForEach(p => Console.WriteLine($"Product Name:
{p.productName}, Product Price: {p.productPrice}, Product Brand:
{p.productBrand}."));

    Console.ReadLine();

    }
}
}

```

**Output:**

S:\NB\Assi\Day1 Morning assignment by Surya Teja Chandolu 24 Jan 2022\C#\Feb1Morning\LoopsPractice\bin\Debug

-----ForLoop-----Customer-----

Customer Id: 1, Customer Name: Surya, Customer Email: Surya@gmail.

Customer Id: 2, Customer Name: Bhanu, Customer Email: Bhanu@gmail.

Customer Id: 3, Customer Name: Prudhvi, Customer Email: Prudhvi@gmail.

Customer Id: 4, Customer Name: Ram Charan, Customer Email: RamCharan@gmail.

Customer Id: 5, Customer Name: Joe, Customer Email: Joe@gmail.

-----ForLoop-----Product-----

Product Name: Shoes, Product Price: 5000, Product Brand: Nike.

Product Name: Mobile, Product Price: 50000, Product Brand: Samsung.

Product Name: Laptop, Product Price: 100000, Product Brand: Dell.

Product Name: Watch, Product Price: 15000, Product Brand: GShock.

Product Name: Cap, Product Price: 2000, Product Brand: Adidas.

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-----ForEachLoop-----Customer-----

Customer Id: 1, Customer Name: Surya, Customer Email: Surya@gmail.

Customer Id: 2, Customer Name: Bhanu, Customer Email: Bhanu@gmail.

Customer Id: 3, Customer Name: Prudhvi, Customer Email: Prudhvi@gmail.

Customer Id: 4, Customer Name: Ram Charan, Customer Email: RamCharan@gmail.

Customer Id: 5, Customer Name: Joe, Customer Email: Joe@gmail.

-----ForEachLoop-----Product-----

Product Name: Shoes, Product Price: 5000, Product Brand: Nike.

Product Name: Mobile, Product Price: 50000, Product Brand: Samsung.

Product Name: Laptop, Product Price: 100000, Product Brand: Dell.

Product Name: Watch, Product Price: 15000, Product Brand: GShock.

Product Name: Cap, Product Price: 2000, Product Brand: Adidas.

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-----LambdaExpression-----Customer-----

Customer Id: 1, Customer Name: Surya, Customer Email: Surya@gmail.

Customer Id: 2, Customer Name: Bhanu, Customer Email: Bhanu@gmail.

Customer Id: 3, Customer Name: Prudhvi, Customer Email: Prudhvi@gmail.

Customer Id: 4, Customer Name: Ram Charan, Customer Email: RamCharan@gmail.

Customer Id: 5, Customer Name: Joe, Customer Email: Joe@gmail.

-----LambdaExpression-----Product-----

Product Name: Shoes, Product Price: 5000, Product Brand: Nike.

Product Name: Mobile, Product Price: 50000, Product Brand: Samsung.

Product Name: Laptop, Product Price: 100000, Product Brand: Dell.

Product Name: Watch, Product Price: 15000, Product Brand: GShock.

Product Name: Cap, Product Price: 2000, Product Brand: Adidas.