

Lecture 1

Below is an source code of the AirPlane example we discussed in the class. This example should allow you to understand the following topics

- Abstraction
- Encapsulation
- Constructors
- null operator
- this operator
- Methods
- Properties

Airplane Class

```
using System;

class AirPlane
{
    private string name;
    private string type;
    private int maxPassengers;
    private int currentPassengers;

    public AirPlane()
    {
        name=null;
        type=null;
        maxPassengers=0;
        currentPassengers=0;
    }

    public AirPlane(string name,string type)
    {
        this.name=name;
        this.type=type;
        maxPassengers=0;
        currentPassengers=0;
    }

    public AirPlane(string name,string type,int maxPassengers,int
currentPassengers):this(name,type)
    {
        this.maxPassengers=maxPassengers;
        this.currentPassengers=currentPassengers;
    }

    public string Name
    {
```

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```
        get
        {
            return name;
        }
        set
        {
            name=value;
        }
    }

    public int CurrentPassengers
    {
        get
        {
            return currentPassengers;
        }

        set
        {
            if(value<=maxPassengers)
            {
                currentPassengers=value;
            }
            else
            {
                Console.WriteLine("Cant Set");
            }
        }
    }

    private bool CanAdd()
    {
        if(currentPassengers<maxPassengers)
            return true;
        else
            return false;
    }

    public void AddPassenger()
    {
        if(CanAdd())
        {
            currentPassengers+=1;
        }
        else
        {
            Console.WriteLine("Cant Add Passengers");
        }
    }
}
```

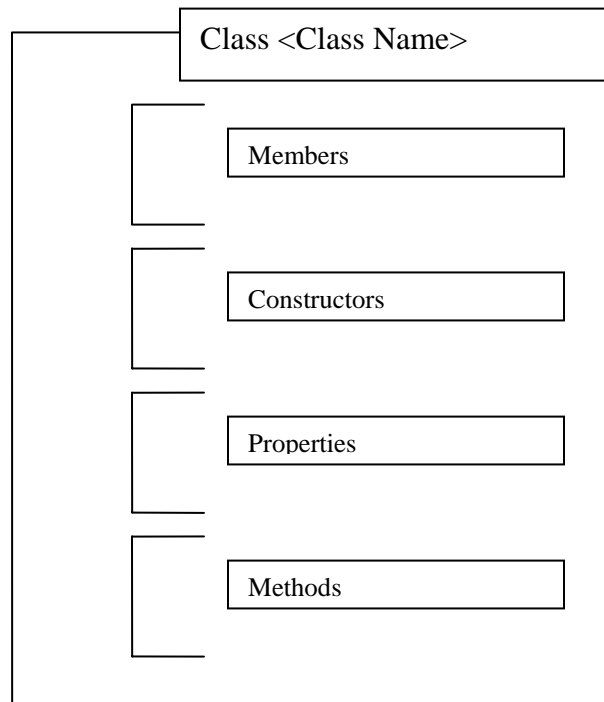
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```
class MainClass
{
    public static void Main()
    {
        AirPlane a=new AirPlane("JB-11","Boeing 777",5,0);
        Console.WriteLine(a.CurrentPassengers);
        a.CurrentPassengers=5;
        Console.WriteLine(a.CurrentPassengers);
        Console.Read();
    }
}
```

Typically a Class includes the following

- Members
- Constructors
- Properties
- Methods

Structure of a Class



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If we look at the AirPlane class we follow the same structure as above.