**Part 81 - When to use a dictionary over list in c#**

**Find()** method of the List class loops thru each object in the list until a match is found. So, if you want to lookup a value using a key, dictionary is better for performance over list. So, use dictionary when you know the collection will be primarily used for lookups.

**Example code used in the demo**  
public class Program  
{  
    public static void Main()  
    {  
        Country country1 = new Country()  
        {  
            Code = "AUS",  
            Name = "AUSTRALIA",  
            Capital = "Canberra"  
        };  
  
        Country country2 = new Country()  
        {  
            Code = "IND",  
            Name = "INDIA ",  
            Capital = "New Delhi"  
        };  
  
        Country country3 = new Country()  
        {  
            Code = "USA",  
            Name = "UNITED STATES",  
            Capital = "Washington D.C."  
        };  
  
        Country country4 = new Country()  
        {  
            Code = "GBR",  
            Name = "UNITED KINGDOM",  
            Capital = "London"  
        };  
  
        Country country5 = new Country()  
        {  
            Code = "CAN",  
            Name = "CANADA",  
            Capital = "Ottawa"  
        };  
  
        //List<Country> listCountries = new List<Country>();  
        //listCountries.Add(country1);  
        //listCountries.Add(country2);  
        //listCountries.Add(country3);  
        //listCountries.Add(country4);  
        //listCountries.Add(country5);  
  
        Dictionary<string, Country> dictionaryCountries = new Dictionary<string, Country>();  
        dictionaryCountries.Add(country1.Code, country1);  
        dictionaryCountries.Add(country2.Code, country2);  
        dictionaryCountries.Add(country3.Code, country3);  
        dictionaryCountries.Add(country4.Code, country4);  
        dictionaryCountries.Add(country5.Code, country5);  
  
        string strUserChoice = string.Empty;  
        do  
        {  
            Console.WriteLine("Please enter country code");  
            string strCountryCode = Console.ReadLine().ToUpper();  
  
            // Find() method of the list class loops thru each object in the list until a match  
            // is found. So, if you want to lookup a value using a key dictionary is better   
            // for performance over list.   
            // Country resultCountry = listCountries.  
            //                                    Find(country => country.Code == strCountryCode);  
  
            Country resultCountry = dictionaryCountries.ContainsKey(strCountryCode) ?                 dictionaryCountries[strCountryCode] : null;  
  
            if (resultCountry == null)  
            {  
                Console.WriteLine("The country code you enetered does not exist");  
            }  
            else  
            {  
                Console.WriteLine("Name = " + resultCountry.Name + " Captial =" + resultCountry.Capital);  
            }  
  
            do  
            {  
                Console.WriteLine("Do you want to continue - YES or NO?");  
                strUserChoice = Console.ReadLine().ToUpper();  
            }   
            while (strUserChoice != "NO" && strUserChoice != "YES");  
        }  
        while (strUserChoice == "YES");  
    }  
}  
  
public class Country  
{  
    public string Name { get; set; }  
    public string Code { get; set; }  
    public string Capital { get; set; }  
}