

Your Weekly .Net Dose

PREDICATE

IN C# .NET



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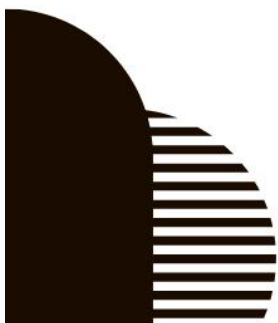


What is Predicate?

Predicate is a delegate type that represents a function or method that takes an input parameter of a specified type and returns a boolean value

Syntax

```
Predicate<T> predicate = x => condition ;
```

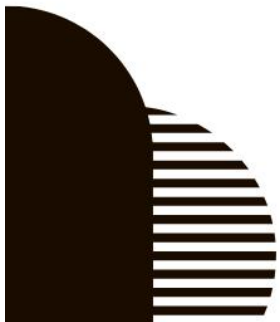




How to use Predicate ?

There are 3 popular ways to use it and they are :

- 1.using Lamda Expression**
- 2.using Function or Method**
- 3.Using anonymous function**





1-using Lamda Expression

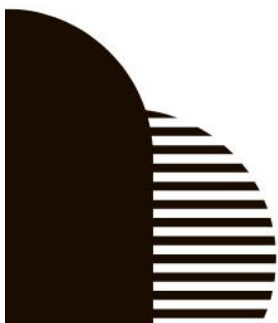
```
Predicate<int> IsPositive = p => p > 0;
```

2-using Method

```
Predicate<int> isPositive = IsPositive;
```

2-using Anonymous Function

```
Predicate<int> isPositive =  
    delegate (int num) { return num > 0; };
```





Predicate with LINQ

- Suppose We have a list of Person objects with properties like Name and Age, and you want to filter the list to find all adults (persons aged 18 or older).

Let's define the Person class

```
0 references
public class Person
{
    0 references
    public string Name { get; set; }
    0 references
    public int Age { get; set; }
}
```





Now, let's create a `Predicate<Person>` that checks if a `Person` object is an adult:

```
Predicate<Person> isAdult = person => person.Age >= 18;
```

Now Let's Creat List of `Person` objects and use LINQ with the `Where` method to filter the list based on the `isAdult` predicate

```
List<Person> people = new List<Person>
{
    new Person { Name = "Mohamed" , Age=18 },
    new Person { Name = "Fadel", Age = 25 },
    new Person { Name = "Ali", Age = 17 },
    new Person { Name = "Adel", Age = 30 },
    new Person { Name = "Khaled", Age = 16 },
};
```



Use LINQ to filter adults based on the isAdult predicate

```
List<Person> adults = people.Where(isAdult.Invoke).ToList();
```

Now we iterate for the List of Persons to Display the names of the adults

```
foreach (Person adult in adults)
{
    Console.WriteLine($"Name : {adult.Name}");
}
```

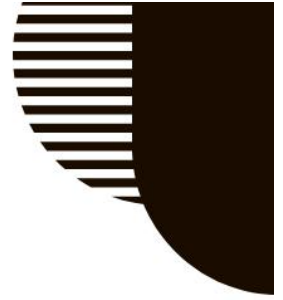
our output will be like Below

```
Name : Mohamed
Name : Fadel
Name : Adel
```



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I Hope it was helpful



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