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INTERRUPT METHODS IN C# THREADING

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Join, Sleep and Interrupt methods in C# Threading (https://www.mindstick.com/Articles/1487/join-sleep-and-interrupt-methods-in-c-sharp-threading)

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👤 POSTED BY KAMLAKAR SINGH (/ACCOUNT/886)

📅 AUGUST-26-2014 16:36 PM   🏷 C# (/TAG/ARTICLE/CSHARP)

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Previously, we learn about DLL in Creating and Using
Dll (Dynamic Link Library) in C#
(http://www.mindstick.com/Articles/71119fac-933b-
4a80-9de7-
531bae95dd26/Creating%20and%20Using%20Dll%20
 now we see Join Sleep and Interrupt methods in c#
Threading

In this article I'm explaining about how to work
thread in c#.

Joining Thread:

The Join method (without any parameters) blocks
the calling thread until the current thread is
terminated. It should be noted that the caller will
block indefinitely if the current thread does not
terminate. If the thread has already terminated
when the Join method is called, the method returns
immediately.

The Join method has an override, which lets you set
the number of milliseconds to wait on the thread to
finish. If the thread has not finished when the timer
expires, join exits and returns control to the calling
thread (and the joined thread continues to execute).

This method changes the state of the calling thread to include WaitSleepJoin .

This method is quite useful if one thread depends on another thread.

In this example, we have create two threads I want the thread1 to run first and the

thread2 to run after complete execution of thread1.

```
using System.Threading;

namespace ThreadWorking
{
    class Program
    {
        public static Thread thread1;
        public static Thread thread2;
        static void Main(string[] args)
        {
            thread1 = new Thread(new ThreadStart(FirstThr
            thread2 = new Thread(new ThreadStart(SecondTh
            thread1.Name = "First Thread";
            thread2.Name = "Second Thread";
            thread1.Start();
            thread2.Start();
            Console.ReadLine();
        }
        public static void FirstThread()
        {
            for (int i = 0; i <= 10; i++)
            {
                Console.WriteLine("Thread1 State [{0}] th
            }
        }
        public static void SecondThread()
        {
            Console.WriteLine("Thread2 State [{0}] just a
            thread1.Join();
            Console.WriteLine("Thread2 State [{0}] Thread
                thread2.ThreadState, thread1.ThreadState,
                Thread.CurrentThread.Name);

            for (int i = 1; i <= 5; i++)
            {
                Console.WriteLine(
                    "Thread2 State [{0}], Thread1 State [
                    thread2.ThreadState, thread1.ThreadSt
                    Thread.CurrentThread.Name, i.ToString
            }
        }
    }
}
```

Output

Sleep:

The static Thread. Sleep () method available on the Thread class is fairly simple it simply suspends the current thread for a specified time. Consider the following example, where two threads are started that run two separate counter methods the first thread (thread1) counts from 0-30, and the second thread (thread2) counts from 31-60.

Thread thread1 will go to sleep for 1 second when it reaches 10, and thread thread2 will go to sleep for 5 seconds when it reaches 45.

```
using System.Threading;

namespace ThreadSleep
{
    class Program
    {
        public static Thread thread1;
        public static Thread thread2;
        static void Main(string[] args)
        {
            thread1 = new Thread(new ThreadStart(FirstThr
            thread2 = new Thread(new ThreadStart(SecondTh
            thread1.Start();
            thread2.Start();
            Console.ReadLine();
        }
        public static void FirstThread()
        {
            Console.WriteLine("Enter First Thread");
            for (int i = 0; i <= 30; i++)
            {
                Console.WriteLine(i);
                if (i == 10)
                {
                    Thread.Sleep(1000);
                }
            }
            Console.WriteLine("Exit First Thread");
        }
        public static void SecondThread()
        {
            Console.WriteLine("Enter Second Thread");
            for (int i = 31; i <= 60; i++)
            {
                Console.WriteLine(i);
                if (i == 45)
                {
                    Thread.Sleep(5000);
                }
            }
            Console.WriteLine("Exit Second Thread");
        }
    }
}
```

Output

```
C:\Windows\system32\cmd.exe

Enter First Thread
0  1  2 Enter Second Thread
31  32  33  34  3  4  5  6  7  8  9  10  35  36  37  38  39  40  41  42  43  44
45  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29
30 Exit First Thread
46  47  48  49  50  51  52  53  54  55  56  57  58  59  60 Exit Second Thread
```

Interrupt:

When a thread is put to sleep, the thread goes into the WaitSleepJoin state. If the thread is in this state it may be placed back in the scheduling queue by the use of the Interrupt method. Calling Interrupt when a thread is in the WaitSleepJoin state will cause a ThreadInterruptedException to be thrown any code that is written needs to catch this exception.

```csharp
using System.Threading;

namespace ThreadInterrupt
{
    class Program
    {
        public static Thread sleeperThread;
        public static Thread wakerThread;
        public static void Main(string[] args)
        {
            sleeperThread = new Thread(new ThreadStart(Th
            wakerThread = new Thread(new ThreadStart(Wake
            sleeperThread.Start();
            wakerThread.Start();
            Console.ReadLine();
        }
        private static void ThreadToSleep()
        {
            for (int i = 0; i < 50; i++)
            {
                Console.Write(i + " ");
                if (i == 10 || i == 20 || i == 30)
                {
                    try
                    {
                        Console.WriteLine("Sleep, Going 1
                        Thread.Sleep(20);
                    }
                    catch (ThreadInterruptedException e)
                    {
                        Console.WriteLine("ForceFully ");
                    }
                    Console.WriteLine("woken");
                }
            }
        }
        private static void WakeThread()
        {
            for (int i = 51; i < 100; i++)
            {
                Console.Write(i + " ");

                if (sleeperThread.ThreadState == ThreadSt
                {
                    Console.WriteLine("Interrupting sleep
                    sleeperThread.Interrupt();
                }
            }
        }
    }
}
```
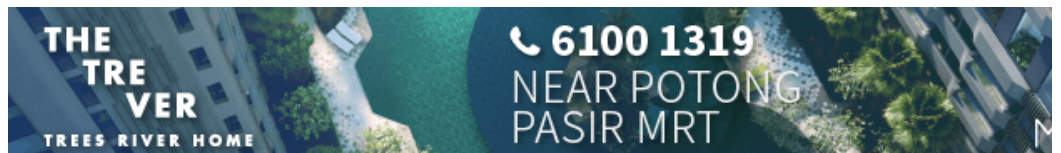
Output

 You may also want to read: Join, Sleep and Abort methods in C# Threading (http://www.mindstick.com/Articles/99c775b1-ac52-42c4-a83c-3e44cc1698a3/Join%20Sleep%20and%20Abort%20methods%20in%20C%20Threading)

In my next post, we are going to learn about : Multithreading in C# (http://www.mindstick.com/Articles/7d61a34a-5c86-480c-957b-bce839afe79b/Multithreading%20in%20C)

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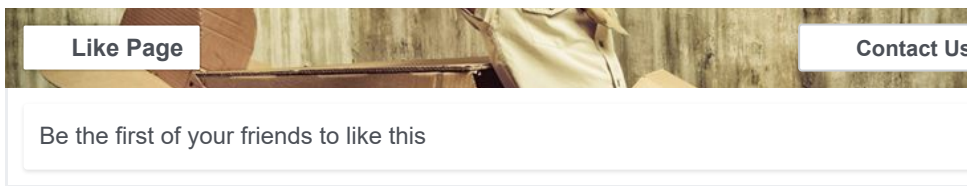**show more... (/TopViewed/article)**

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