

Thread

Experiment

Experiment #1

แก้ไข for ทั้ง 2 จุด

```
for (i=0; i < 100000; i++)
```

```
1 // simple thread
2 using System;
3 using System.Threading;
4
5 namespace Lab_OS_Concurrency
6 {
7     class Program
8     {
9         static void TestThread1()
10         {
11             int i;
12             for (i = 0; i < 100; i++)
13                 Console.WriteLine("Thread# 1 i={0}", i);
14         }
15         static void TestThread2()
16         {
17             int i;
18             for (i = 0; i < 100; i++)
19                 Console.WriteLine("Thread# 2 i={0}", i);
20         }
21
22         static void Main(string[] args)
23         {
24             Thread th1 = new Thread(TestThread1);
25             Thread th2 = new Thread(TestThread2);
26             th1.Start();
27             th2.Start();
28         }
29     }
30 }
```

Experiment #2

- Resource sharing among threads

```
1 //test resource sharing
2 using System;
3 using System.Threading;
4
5 namespace Lab_OS_Concurrency01
6 {
7     class Program
8     {
9         static int resource = 10000;
10        static void TestThread1()
11        {
12            Console.WriteLine("Thread# 1 i={0}", resource);
13        }
14        static void TestThread2()
15        {
16            Console.WriteLine("Thread# 2 i={0}", resource);
17        }
18
19        static void Main(string[] args)
20        {
21            Thread th1 = new Thread(TestThread1);
22            Thread th2 = new Thread(TestThread2);
23            th1.Start();
24            th2.Start();
25        }
26    }
27 }
```

Experiment #3

- Pause a thread

แก้ไข

Thread.Sleep(100)

```
//test pause a thread
using System;
using System.Threading;

namespace Lab_OS_Concurrency02
{
    class Program
    {
        static int resource = 10000;
        static void TestThread1()
        {
            resource = 55555;
        }

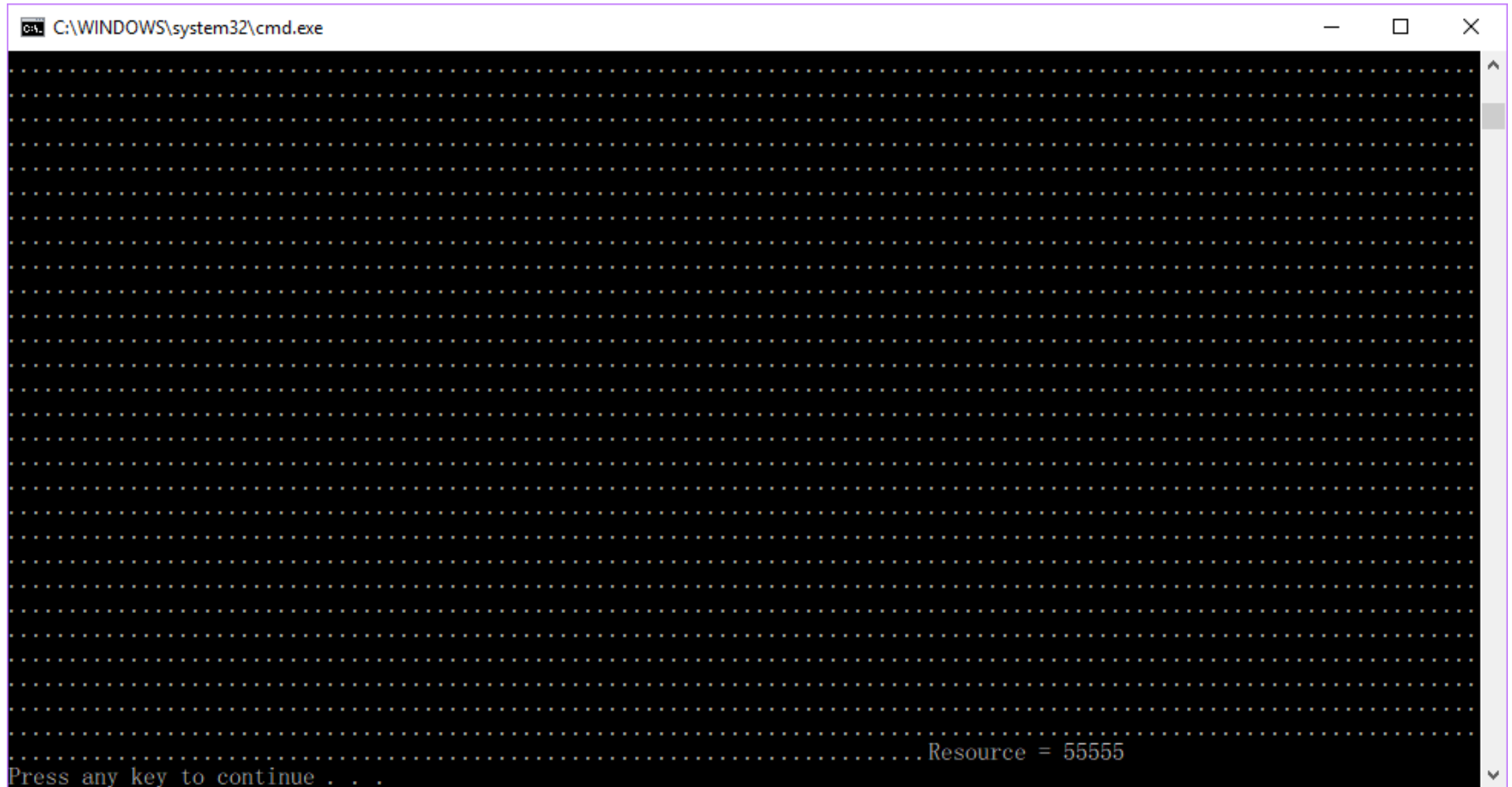
        static void Main(string[] args)
        {
            Thread th1 = new Thread(TestThread1);
            th1.Start();
            Thread.Sleep(10);
            Console.WriteLine("resource={0}", resource);
        }
    }
}
```

Experiment #3.1

- Pause a thread #2

```
1 //test pause #2
2 using System;
3 using System.Threading;
4
5 namespace Lab_OS_Concurrency01
6 {
7     class Program
8     {
9         static int resource = 10000;
10        static void TestThread1()
11        {
12            int i;
13            for (i = 0; i < 45555; i++)
14            {
15                resource++;
16                Console.Write(".");
17            }
18        }
19
20        static void Main(string[] args)
21        {
22            Thread th1 = new Thread(TestThread1);
23            th1.Start();
24            Thread.Sleep(10);
25            Console.WriteLine("Resource = {0}", resource);
26        }
27    }
28 }
```

Experiment #3.1 desired result



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

Press any key to continue . . . Resource = 55555
```

Experiment #3.2

- Join thread

```
1 //test pause #2
2 using System;
3 using System.Threading;
4
5 namespace Lab_OS_Concurrency01
6 {
7     class Program
8     {
9         static int resource = 10000;
10        static void TestThread1()
11        {
12            int i;
13            for (i = 0; i < 45555; i++)
14            {
15                resource++;
16                Console.Write(".");
17            }
18        }
19
20        static void Main(string[] args)
21        {
22            Thread th1 = new Thread(TestThread1);
23            th1.Start();
24            //Thread.Sleep(10);
25            th1.Join();
26            Console.WriteLine("Resource = {0}", resource);
27        }
28    }
29 }
```