

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

Counter Class

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```
1  using Microsoft.VisualBasic;
2  using System;
3  using System.Security.Cryptography.X509Certificates;
4
5  namespace CounterTask
6  {
7      class MainClass
8      {
9          private static void PrintCounters(Counter[] counters)
10         {
11             //c: a reference to a Counter
12             foreach (Counter c in counters)
13             {
14                 //Tell Console, to WriteLine with the format "{0} is {1}"
15                 Console.WriteLine("{0} is {1}", c.Name, c.Ticks);
16             }
17         }
18
19         public static void Main(string[] args)
20         {
21             //assign local variable
22             int i;
23             //an array of 3 references to Counter objects
24             Counter[] myCounters = new Counter[3];
25
26             //assign name to counters
27             myCounters[0] = new Counter ("Counter1");
28             myCounters[1] = new Counter ("Counter2");
29             myCounters[2] = myCounters[0];
30
31             //Loop i from 0 to 9
32             for (i=0; i<10; i++)
33             {
34                 //Tell myCounters[0] to Increment
35                 myCounters[0].Increment();
36             }
37
38             //Loop i from 0 to 14
39             for (i=0; i<15; i++)
40             {
41                 //Tell myCounters[1] to Increment
42                 myCounters[1].Increment();
43             }
44
45             //Tell MainClass to Print Counters, pass in myCounters
46             PrintCounters(myCounters);
47
48             //Tell myCounters[2] to Reset
49             myCounters[2].Reset();
50
51             //Tell MainClass to Print Counters, pass in myCounters
52             PrintCounters(myCounters);
53         }
```

```
54     }  
55 }  
56
```

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace CounterTask
8  {
9      public class Counter
10     {
11         private int _count;
12         private string _name;
13
14         public string Name
15         {
16             get
17             {
18                 return _name;
19             }
20             set
21             {
22                 _name = value;
23             }
24         }
25
26         public int Ticks //read only
27         {
28             get
29             {
30                 return _count;
31             }
32         }
33
34         public Counter(string name)
35         {
36             _name = name; //set the name of the Counter
37             _count = 0; //assigns 0 to the _count field
38         }
39
40         public void Increment()
41         {
42             //increases the value of the _count field by one.
43             _count++;
44         }
45
46         public void Reset()
47         {
48             //assigns 0 to the _count field
49             _count = 0;
50         }
51     }
52 }
```

