

SWINBURNE UNIVERSITY OF TECHNOLOGY

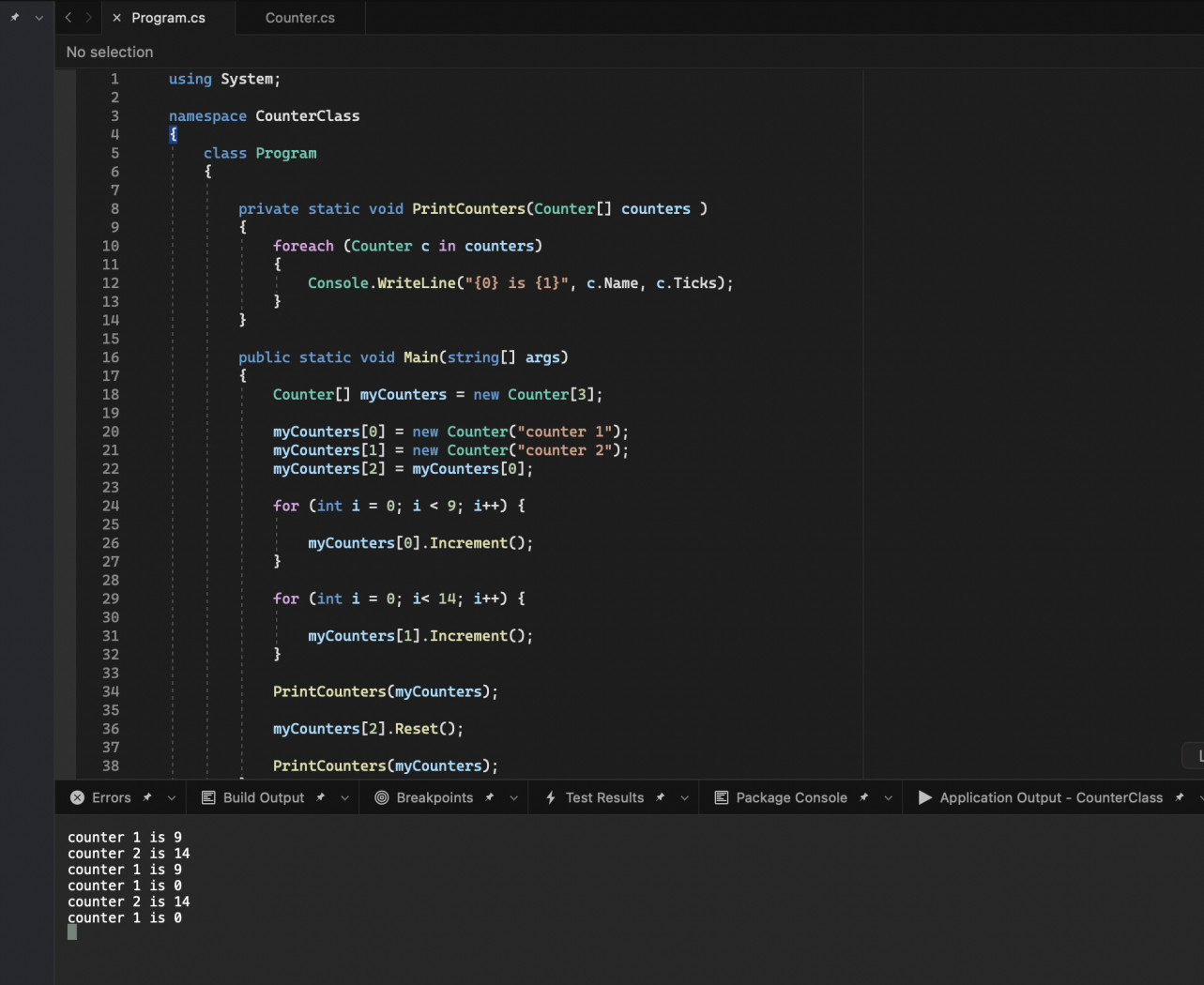
COS20007 OBJECT ORIENTED PROGRAMMING

2.2P - Counter Class

PDF generated at 11:45 on Thursday 9th March, 2023

```
1  using System;
2
3  namespace CounterClass
4  {
5      class Program
6      {
7
8          private static void PrintCounters(Counter[] counters )
9          {
10              foreach (Counter c in counters)
11              {
12                  Console.WriteLine("{0} is {1}", c.Name, c.Ticks);
13              }
14          }
15
16          public static void Main(string[] args)
17          {
18              Counter[] myCounters = new Counter[3];
19
20              myCounters[0] = new Counter("counter 1");
21              myCounters[1] = new Counter("counter 2");
22              myCounters[2] = myCounters[0];
23
24              for (int i = 0; i < 9; i++) {
25
26                  myCounters[0].Increment();
27              }
28
29              for (int i = 0; i < 14; i++) {
30
31                  myCounters[1].Increment();
32              }
33
34              PrintCounters(myCounters);
35
36              myCounters[2].Reset();
37
38              PrintCounters(myCounters);
39          }
40      }
41  }
42 }
```

```
1  using System;
2  namespace CounterClass
3  {
4      public class Counter
5      {
6          private int _count;
7          private string _name;
8
9          public string Name
10         {
11             get { return _name; }
12             set { _name = value; }
13         }
14
15         public int Ticks
16         {
17             get { return _count; }
18         }
19
20         public Counter(string name)
21         {
22             _name = name;
23             _count = 0;
24         }
25
26
27         public void Increment()
28         {
29             _count++;
30         }
31
32         public void Reset()
33         {
34             _count = 0;
35         }
36     }
37 }
38
39
```



The screenshot shows a Visual Studio code editor with two tabs: 'Program.cs' and 'Counter.cs'. The 'Counter.cs' tab is active, displaying the following C# code:

```
1 using System;
2
3 namespace CounterClass
4 {
5     class Program
6     {
7
8         private static void PrintCounters(Counter[] counters )
9         {
10             foreach (Counter c in counters)
11             {
12                 Console.WriteLine("{0} is {1}", c.Name, c.Ticks);
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16         public static void Main(string[] args)
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18             Counter[] myCounters = new Counter[3];
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20             myCounters[0] = new Counter("counter 1");
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24             for (int i = 0; i < 9; i++) {
25                 myCounters[0].Increment();
26             }
27
28             for (int i = 0; i < 14; i++) {
29                 myCounters[1].Increment();
30             }
31
32             PrintCounters(myCounters);
33
34             myCounters[2].Reset();
35
36             PrintCounters(myCounters);
37
38 }
```

Below the code editor, the 'Application Output - CounterClass' window displays the following output:

```
counter 1 is 9
counter 2 is 14
counter 1 is 9
counter 1 is 0
counter 2 is 14
counter 1 is 0
```