SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

Clock in Another Language

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```python
1   class Counter:
2       def __init__(self, name):
3           self._name = name
4           self._count = 0
5
6       @property
7       def NameCounter(self):
8           return self._name
9
10      @NameCounter.setter
11      def NameCounter(self, value):
12          self._name = value
13
14      @property
15      def Tick(self):
16          return self._count
17
18      def Increment(self):
19          self._count = self._count + 1
20
21
22      def Reset(self):
23          self._count = 0
24
25  class Clock:
26      def __init__(self):
27          self._seconds = Counter("seconds")
28          self._minutes = Counter("minutes")
29          self._hours = Counter("hours")
30
31      def Tick(self):
32          self._seconds.Increment()
33          if self._seconds.Tick > 59:
34              self._seconds.Reset()
35              self._minutes.Increment()
36              if self._minutes.Tick > 59:
37                  self._minutes.Reset()
38                  self._hours.Increment()
39                  if self._hours.Tick > 23:
40                      self._hours.Reset()
41
42      def Reset(self):
43          self._seconds.Reset()
44          self._minutes.Reset()
45          self._hours.Reset()
46
47      def ReadClock(self):
48          return
            ↪   f"{self._hours.Tick:02}:{self._minutes.Tick:02}:{self._seconds.Tick:02}"
49
50  if __name__ == "__main__":
51      clock = Clock()
52      while True:
```

```
53        clock.Tick()
54        print(clock.ReadClock())
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

```
08:50:02
08:50:03                        Page 3 of 3
08:50:04
08:50:05
08:50:06
08:50:07
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08:50:12
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08:50:14
08:50:15
08:50:16
08:50:17
08:50:18
08:50:19
08:5%
lb008022@Lorraine-Becker---lb008022 Desktop %
```