

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

---

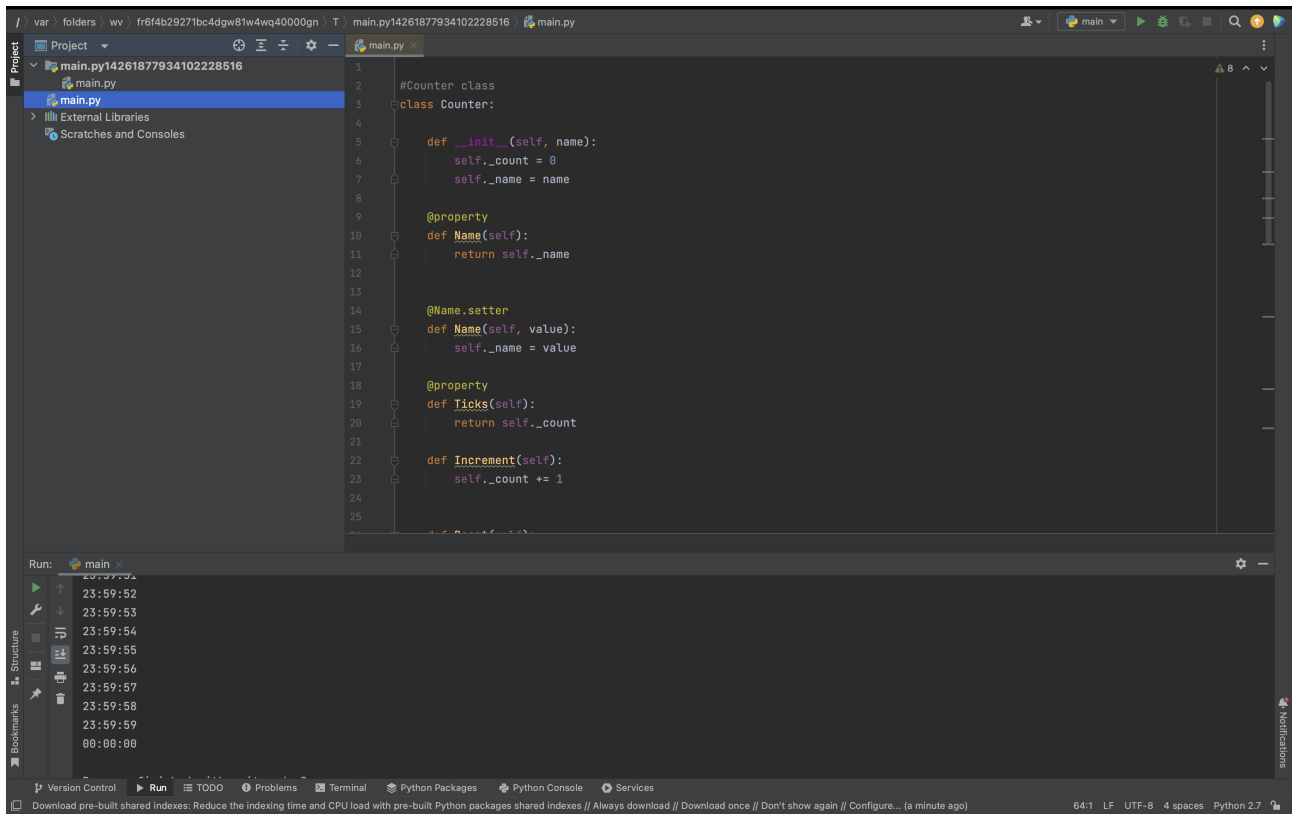
## 11.1P - Clock in Another Language

---

PDF generated at 22:54 on Monday 1<sup>st</sup> May, 2023

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

```
54     def Time(self):
55         return str(self._hours.Ticks).zfill(2) + ":" +
           ↪ str(self._minutes.Ticks).zfill(2) + ":" + str(
56             self._seconds.Ticks).zfill(2)
57
58     ## Main
59     clock = Clock()
60
61     for i in range(86400):
62         clock.Tick()
63         print(clock.Time)
```



```
1 #Counter class
2
3 class Counter:
4
5     def __init__(self, name):
6         self._count = 0
7         self._name = name
8
9     @property
10    def Name(self):
11        return self._name
12
13
14    @Name.setter
15    def Name(self, value):
16        self._name = value
17
18
19    @property
20    def Ticks(self):
21        return self._count
22
23    def Increment(self):
24        self._count += 1
25
```

Run: main

23:59:52  
23:59:53  
23:59:54  
23:59:55  
23:59:56  
23:59:57  
23:59:58  
23:59:59  
00:00:00

Download pre-built shared indexes: Reduce the indexing time and CPU load with pre-built Python packages shared indexes // Always download // Download once // Don't show again // Configure... (a minute ago)

64-bit LF UTF-8 4 spaces Python 2.7