Swinburne University of Technology

COS20007 Object Oriented Programming

Clock in Another Language

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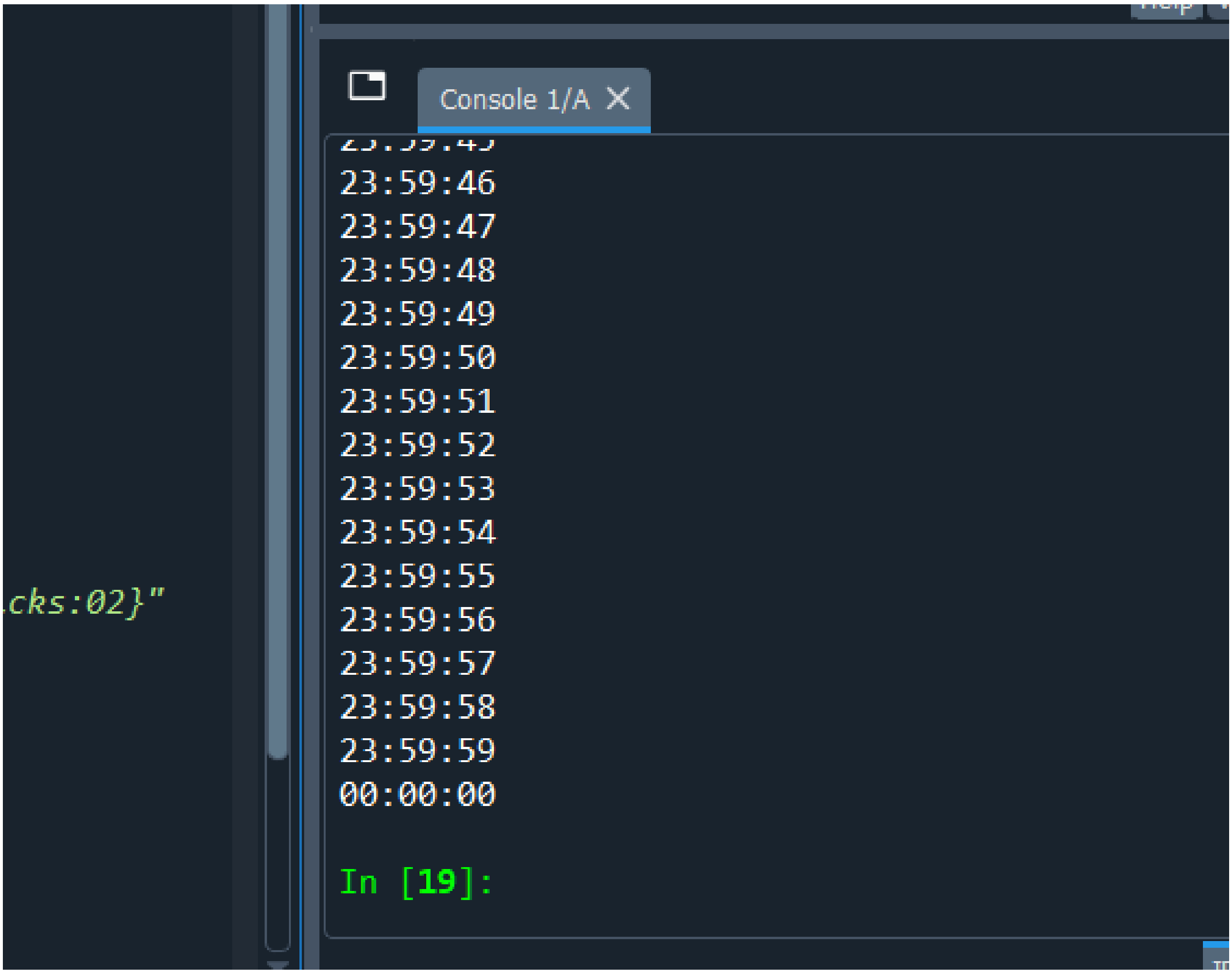
```python
class Counter:
    def __init__(self, name):
        self._name = name
        self._count = 0

    @property
    def Ticks(self):
        return self._count

    @property
    def NameCounter(self):
        return self._name

    @NameCounter.setter
    def NameCounter(self, value):
        self._name = value

    def IncrementCounter(self):
        self._count += 1

    def ResetCounter(self):
        self._count = 0


class Clock:
    def __init__(self):
        self._seconds = Counter("seconds")
        self._minutes = Counter("minutes")
        self._hours = Counter("hours")

    def IncrementClock(self):
        self._seconds.IncrementCounter()
        if self._seconds.Ticks > 59:
            self._seconds.ResetCounter()
            self._minutes.IncrementCounter()
            if self._minutes.Ticks > 59:
                self._minutes.ResetCounter()
                self._hours.IncrementCounter()
                if self._hours.Ticks > 23:
                    self._hours.ResetCounter()

    def ResetClock(self):
        self._seconds.ResetCounter()
        self._minutes.ResetCounter()
        self._hours.ResetCounter()

    def ReadClock(self):
        return f"{self._hours.Ticks:02}:{self._minutes.Ticks:02}:{self._seconds.Ticks:02}"


class ClockProgram:
    @staticmethod
    def Main():
        clock = Clock()
        for i in range(86400):
            clock.IncrementClock()
            print(clock.ReadClock())


if __name__ == "__main__":
    ClockProgram.Main()
```



```
cks:02}"
```

```
23:59:45
23:59:46
23:59:47
23:59:48
23:59:49
23:59:50
23:59:51
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

In [19]:
```