

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

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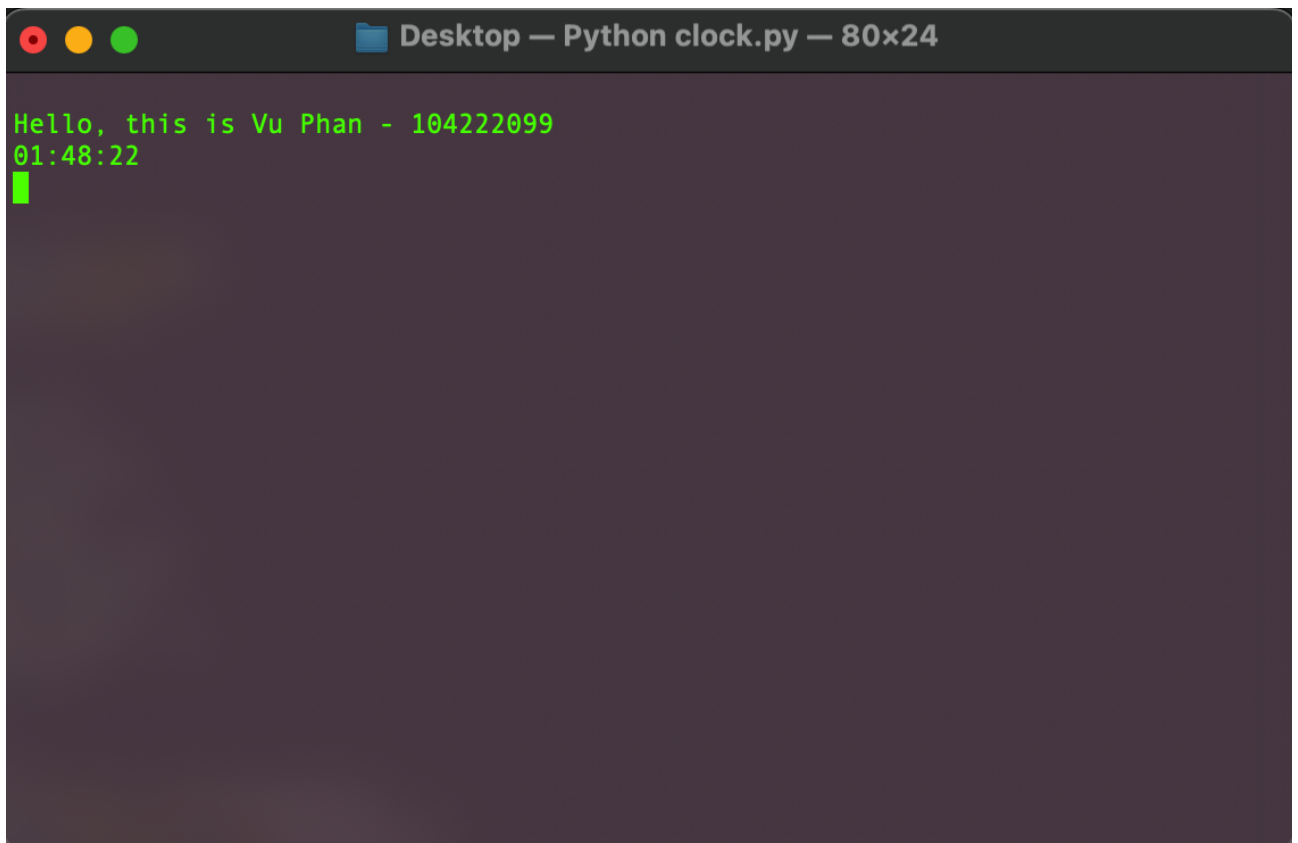
# Clock in Another Language

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PDF generated at 19:05 on Sunday 19<sup>th</sup> November, 2023

```
1 class Counter:
2     def __init__(self, name, count=0):
3         self._count = count
4         self._name = name
5
6     def reset(self):
7         self._count = 0
8
9     def increment(self):
10        self._count += 1
11
12    @property
13    def name(self):
14        return self._name
15
16    @name.setter
17    def name(self, value):
18        self._name = value
19
20    @property
21    def tick(self):
22        return self._count
23
24
25 class Clock:
26     def __init__(self):
27         self._second = Counter("second")
28         self._minute = Counter("minute")
29         self._hour = Counter("hour")
30
31     def tick(self):
32         self._second.increment()
33         if self._second.tick > 59:
34             self._minute.increment()
35             self._second.reset()
36             if self._minute.tick > 59:
37                 self._hour.increment()
38                 self._minute.reset()
39                 if self._hour.tick > 23:
40                     self.reset()
41
42     def set_time(self, s):
43         array = s.split(":")
44         self._hour = Counter("hour", int(array[0]))
45         self._minute = Counter("minute", int(array[1]))
46         self._second = Counter("second", int(array[2]))
47
48     def reset(self):
49         self._second.reset()
50         self._minute.reset()
51         self._hour.reset()
52
53     def current_time(self):
```

```
54         return
55         ↪ f"{self._hour.tick:02d}:{self._minute.tick:02d}:{self._second.tick:02d}"
56
57 if __name__ == "__main__":
58     import time
59
60     clock = Clock()
61
62     for i in range(86400):
63         time.sleep(0.001)
64         print("\033[H\033[J") # Clears the console
65         clock.tick()
66         print("Hello, this is Vu Phan - 104222099")
67         print(clock.current_time())
```



A screenshot of a terminal window titled "Desktop — Python clock.py — 80x24". The window has a dark background and shows the output of a Python script in green text. The output consists of two lines: "Hello, this is Vu Phan - 104222099" and "01:48:22". A green cursor is visible on the line following the timestamp.

```
Hello, this is Vu Phan - 104222099
01:48:22
█
```