Swinburne University of Technology

COS20007 Object Oriented Programming

Clock in Another Language

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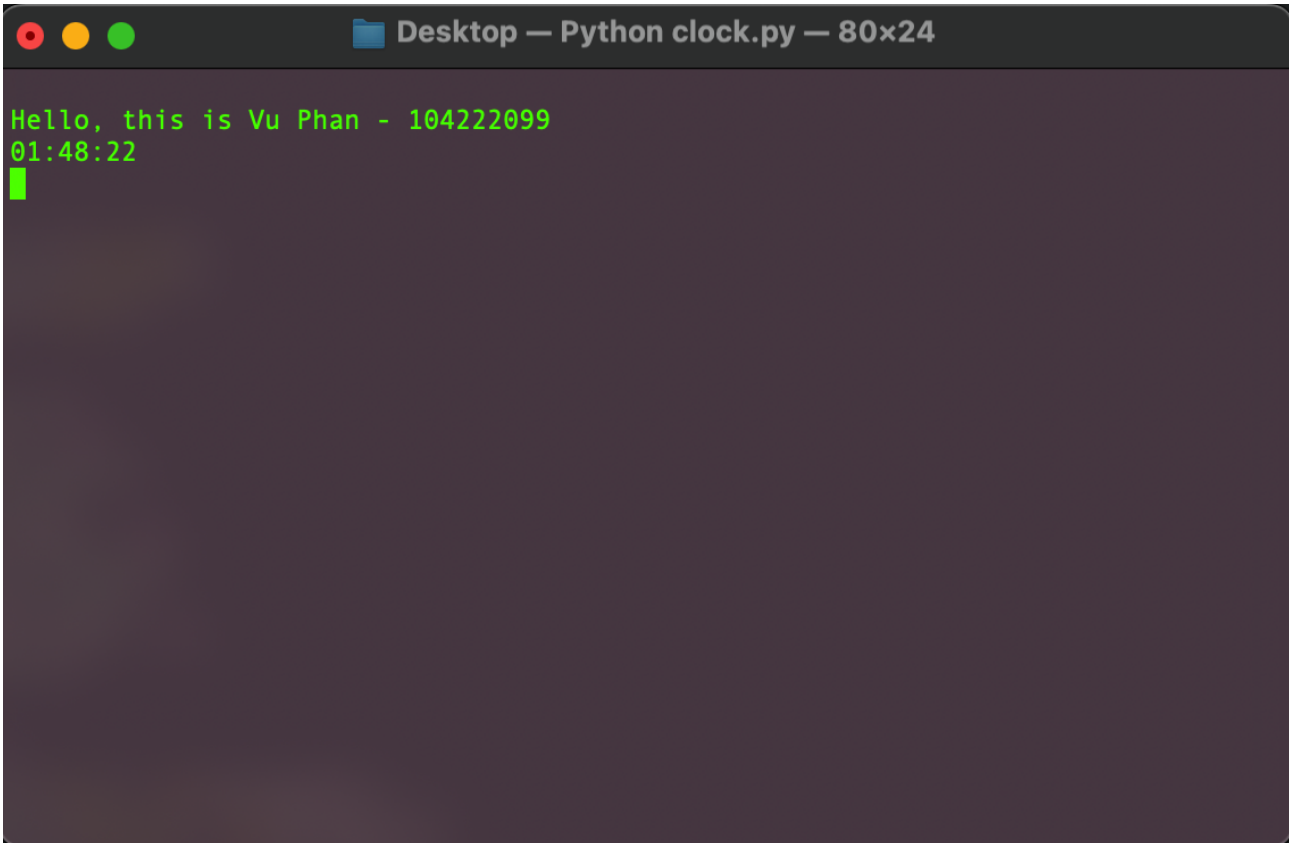
```
class Counter:
    def __init__(self, name, count=0):
        self._count = count
        self._name = name

    def reset(self):
        self._count = 0

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

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

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

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


class Clock:
    def __init__(self):
        self._second = Counter("second")
        self._minute = Counter("minute")
        self._hour = Counter("hour")

    def tick(self):
        self._second.increment()
        if self._second.tick > 59:
            self._minute.increment()
            self._second.reset()
            if self._minute.tick > 59:
                self._hour.increment()
                self._minute.reset()
                if self._hour.tick > 23:
                    self.reset()

    def set_time(self, s):
        array = s.split(":")
        self._hour = Counter("hour", int(array[0]))
        self._minute = Counter("minute", int(array[1]))
        self._second = Counter("second", int(array[2]))

    def reset(self):
        self._second.reset()
        self._minute.reset()
        self._hour.reset()

    def current_time(self):
```

```
        return
        ↪  f"{self._hour.tick:02d}:{self._minute.tick:02d}:{self._second.tick:02d}"


if __name__ == "__main__":
    import time

    clock = Clock()

    for i in range(86400):
        time.sleep(0.001)
        print("\033[H\033[J")  # Clears the console
        clock.tick()
        print("Hello, this is Vu Phan - 104222099")
        print(clock.current_time())
```


Desktop — Python clock.py — 80×24
Hello, this is Vu Phan - 104222099
01:48:22