```python
# CS241 Team Activity 08 - Stretch

class Time:

    def __init__(self):
        # Don't need to initialize self._hours because
        # that will be done when the property function
        # is called for self.hours = 0
        self.hours = 0
        self.minutes = 0
        self.seconds = 0

    @property
    def hours(self):
        # Just return the "hidden" data
        return self._hours

    @hours.setter
    def hours(self, hours):
        # Do some validation checks before using the value
        if hours < 0:
            self._hours = 0
        elif hours > 23:
            self._hours = 23
        else:
            self._hours = hours

    @property
    def minutes(self):
        return self._minutes

    @minutes.setter
    def minutes(self, minutes):
        if minutes < 0:
            self._minutes = 0
        elif minutes > 59:
            self._minutes = 59
        else:
            self._minutes = minutes

    @property
    def seconds(self):
        return self._seconds

    @seconds.setter
    def seconds(self, seconds):
        if seconds < 0:
            self._seconds = 0
        elif seconds > 59:
            self._seconds = 59
        else:
            self._seconds = seconds

    @property
    def hours_simple(self):
        # This property does not provide a setter.
        # This function transforms self.hours from a
        # 24 hour format to a 12 hour format
        # Note that this property does not use self._hours
        # directly.  Instead, it uses the hours property which
        # will use the self._hours.
        simple = self.hours % 12
        if simple == 0:
            return 12
        return simple

```

```
    @property
    def period(self):
        # Returns a string based on the hours
        if self.hours < 12:
            return "AM"
        else:
            return "PM"

def display(time):
    print("{}:{}:{}" .format(time.hours, time.minutes, time.seconds))
    print("{}:{}:{} {}" .format(time.hours_simple, time.minutes, time.seconds,
    time.period))
    print()

def main():
    time1 = Time()
    time1.hours = 8
    time1.minutes = 30
    time1.seconds = 10
    display(time1)
    time2 = Time()
    time2.hours = 24
    time2.minutes = -2
    time2.seconds = 70
    display(time2)
    time3 = Time()
    time3.hours = 0
    time3.minutes = 5
    time3.seconds = 10
    display(time3)
    time4 = Time()
    time4.hours = 12
    time4.minutes = 5
    time4.seconds = 10
    display(time4)


if __name__ == "__main__":
    main()
```