

BIS 420 PROGRAMMING FOR DATA SCIENCE
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CHAPTER 16 EXERCISE 16.5
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Rewrite increment using time_to_int and int_to_time.

```
class Time:
```

```
    def __init__(self, hour=0, minute=0, second=0):
```

```
        self.hour = hour
```

```
        self.minute = minute
```

```
        self.second = second
```

```
def time_to_int(time):
```

```
    return time.hour * 3600 + time.minute * 60 + time.second
```

```
def int_to_time(seconds):
```

```
    hour = seconds // 3600
```

```
    seconds %= 3600
```

```
    minute = seconds // 60
```

```
    second = seconds % 60
```

```
    return Time(hour, minute, second)
```

```
def increment(time, seconds):
```

```
    total_seconds = time_to_int(time) + seconds
```

```
    return int_to_time(total_seconds)
```

```
def print_time(time):
```

```
    print('%0.2d:%0.2d:%0.2d' % (time.hour, time.minute, time.second))
```

```
t1 = Time(1, 59, 30)
t2 = increment(t1, 90)
print_time(t2) # Output: 02:01:00
```

```
class Time:
    def __init__(self, hour=0, minute=0, second=0):
        self.hour = hour
        self.minute = minute
        self.second = second

def time_to_int(time):
    return time.hour * 3600 + time.minute * 60 + time.second

def int_to_time(seconds):
    hour = seconds // 3600
    seconds %= 3600
    minute = seconds // 60
    second = seconds % 60
    return Time(hour, minute, second)

def increment(time, seconds):
    total_seconds = time_to_int(time) + seconds
    return int_to_time(total_seconds)

def print_time(time):
    print('%02d:%02d:%02d' % (time.hour, time.minute, time.second))

t1 = Time(1, 59, 30)
t2 = increment(t1, 90)
print_time(t2) # Output: 02:01:00
```