

2006 AP[®] COMPUTER SCIENCE A FREE-RESPONSE QUESTIONS

1. An appointment scheduling system is represented by the following three classes: `TimeInterval`, `Appointment`, and `DailySchedule`. In this question, you will implement one method in the `Appointment` class and two methods in the `DailySchedule` class.

A `TimeInterval` object represents a period of time. The `TimeInterval` class provides a method to determine if another time interval overlaps with the time interval represented by the current `TimeInterval` object. An `Appointment` object contains a time interval for the appointment and a method that determines if there is a time conflict between the current appointment and another appointment. The declarations of the `TimeInterval` and `Appointment` classes are shown below.

```
public class TimeInterval
{
    // returns true if interval overlaps with this TimeInterval;
    // otherwise, returns false
    public boolean overlapsWith(TimeInterval interval)
    { /* implementation not shown */ }

    // There may be fields, constructors, and methods that are not shown.
}

public class Appointment
{
    // returns the time interval of this Appointment
    public TimeInterval getTime()
    { /* implementation not shown */ }

    // returns true if the time interval of this Appointment
    // overlaps with the time interval of other;
    // otherwise, returns false
    public boolean conflictsWith(Appointment other)
    { /* to be implemented in part (a) */ }

    // There may be fields, constructors, and methods that are not shown.
}
```

- (a) Write the `Appointment` method `conflictsWith`. If the time interval of the current appointment overlaps with the time interval of the appointment `other`, method `conflictsWith` should return `true`; otherwise, it should return `false`.

Complete method `conflictsWith` below.

```
// returns true if the time interval of this Appointment
// overlaps with the time interval of other;
// otherwise, returns false
public boolean conflictsWith(Appointment other)
```