Challenge 6.2 - Stop Watch: Calculate Elapsed Time

Elapsed Time

Use the NSCalendar method to create NSDateComponents to show the duration between the start and stop times using hours, minutes, and seconds. Read the documentation to learn how to access the components.

1. Add a new method called `updateTime` to show the elapsed time that has passed using the UILabel. Call the method from your timer method and when the timer is stopped.
2. Change the NSTimer so that it's scheduled every 0.01 seconds.

Formatting Time

1. Read "Determining Temporal Differences" in the "Date and Time Programming Guide" https://developer.apple.com/library/mac/documentation/cocoa/conceptual/datesandtimes/datesandtimes.html

```
NSCalendar *gregorianCalendar = [[NSCalendar alloc]
   initWithCalendarIdentifier:NSGregorianCalendar];
NSUInteger unitFlags = NSHourCalendarUnit |
   NSMinuteCalendarUnit | NSSecondCalendarUnit;
NSDateComponents *elapsedDateComponents = [gregorianCalendar
   components:unitFlags
   fromDate:_startDate
   toDate:_endDate options:0];
```

2. Use the NSString object's stringWithFormat: method to format the display time from the components. Hint: You'll want to use %02d to force 2 digits with leading zeros.

Bonus 1: Display the elapsed time in milliseconds. You can display an NSDate's fractions of a second with the NSDateFormatter using format string. @"HH:mm:ss.SSS"

Hint 1: Use the NSDate method timeIntervalSinceDate: to calculate number of seconds (includes fractional).
Hint 2: Use modf() function to get fractional portion of a floating-point number.
Hint 3: Use %06.3f to format a number like 6.239 as "06.239". The 0 forces a leading zero, 6 means a total of 6 characters including the period, and .3 means 3 decimal places.

Bonus 2: Resume the timer from the previous stopped time.