



CS167 - Intro Programming

Albert Schueller

Spring 2016, 10TThF, Olin 165

[home](#)[syllabus](#)[video](#)[grades](#)[in-class examples](#)[upload](#)[presentations](#)

Homework 02: Drawing with Functions (due Feb 02, 2016)

1. Write the function `RegularPolygon(t, n, r)` that will draw a regular n -sided polygon centered on the turtle, `t`. The function parameters are:

- `t` - a turtle
- `n` - number of sides
- `r` - radius of polygon (the distance from the center to a vertex)

Note that you should return the turtle to its original position at the end of the function.

Submit a Python program file, `polygon.py`, that includes your `RegularPolygon` function and uses it to draw a polygon of any kind at any location on the screen.

Be sure to write a descriptive comment for the function so that another programmer knows how to use it.

Include some Above & Beyond element. This can either be another function, or a clever use of the assigned function.

2. Write an interactive program that requests a number of seconds from the user and returns the equivalent number of hours, minutes, and seconds (e.g. 12345 secs = 3 hours, 25 mins and 45 secs). The program should have a neat interface, provide user feedback and have a clear report.

Use conditional statements to handle the case when there are no hours and/or no minutes. Also, use conditional statements to choose plural and singular (e.g. hour vs. hours, minute vs. minutes)

Include some Above & Beyond element. Also include a comment describing your Above & Beyond element.

Here are some sample interactions:

```
Enter seconds: 0
0 seconds is equivalent to 0 seconds.
```

```
Enter seconds: 1
1 second is equivalent to 1 second.
```

```
Enter seconds: 61
61 seconds is equivalent to 1 minute and 1 second.
```

```
Enter seconds: 800
800 seconds is equivalent to 13 minutes and 20 seconds.
```

```
Enter seconds: 3600
3600 seconds is equivalent to 1 hour.
```

```
Enter seconds: 3601
3601 seconds is equivalent to 1 hour and 1 second.
```

```
Enter seconds: 3681
3681 seconds is equivalent to 1 hour, 1 minute and 21 seconds.
```

Enter seconds: 3900

3900 seconds is equivalent to 1 hour and 5 minutes.

Homework 02 Pairings:

```
['Ashley, George', 'Robinson, Nick']  
['Blausapp, Yarden', 'Klein, Emily']  
['Chun, Catie', 'Warren, Tyler']  
['Eastland-Fruit, Ridley', 'Obey, Kevin']  
['Fernandez Orozco, Pablo', 'Salkind, Quinn']  
['Hayes, Nelson', 'Over, Clayton']  
['Hochfeld, Nick', 'Bruns, Adam']  
['Hoffman, Daniel', 'Coutret, Eloise']  
['Jarriel, Kaylin', 'Anderson, Alec']  
['Karneus, Louise', 'Clark, Zachary']  
['Mullins, Will', 'Brothers, Robby']  
['Novak, Hannah', 'Wheeler, Noah']  
['Valence, Jini', 'Donner, Eliza']  
['Walker, Stanley', 'Mueller, Spencer']  
['Wang, Jingyuan', 'Stanley, Jenna']
```