CS-UY 1114 LAB 2, Spring 2018

In this lab, you will learn:

- The difference between divide, div and modulus
- How to use modules, specifically the 'math' module and 'turtle' module
- Continue to practice the 'print' and 'input' function

Pen and Paper Questions:

1. 101101 base 2 (binary -> decimal)
2. FD41 base 16 (hex -> binary)
3. 111 base 10 (decimal -> binary)
4. 11011 base 2 (binary -> hex)

Coding questions:

1. Write a few lines of code that:

- Ask the user to input an integer as the radius
- Compute the circumference and area of a circle with the input radius
- Display the result :)

Hint: use 'math.pi'

Example Output: (The answer does not have to be rounded to 2 decimal places)

```
Please enter an integer for radius: 3
Circumference of the circle is: 18.85 and the area of the circle is 28.27
```

2. Use Turtle to draw a pentagon
Note: refer to Wikipedia on details of pentagon at https://en.wikipedia.org/wiki/Pentagon

3. Write a few lines of code that:

- Ask the user to input number of days
- Convert the number of days into the form of weeks and days
- Display the result

Example Output:

```
Please enter number of days: 12
12 days is equal to 1 week and 5 days
```

4. Write a program that:

- Ask the user to input a decimal integer *less* than 100.

- Convert the input to Roman numbers and display.

Hint: Roman numerals and decimals follow the table below. For numbers less than 100 in decimal, no need to consider subtractions. i.e., 4 = IIII, 9 = VIIII instead of IV and IX.

Decimal	1	5	10	50
Roman	I	V	X	L

Example Output:

```
Please enter an integer less than 100: 59
59 in Roman Numeral is: LVIIII
```

5. Write a few lines of code that:

Part A: Parsing the user input

- Ask user to input a date of birth
- Ask user to input today's date
- Display the date of birth and today's date in the mm/dd/yyyy format
- **Hint**: use divide, div and modulo!!!

Example Output:

```
Please enter a date of birth: 19951117
Please enter today's date: 20170901
Date of birth is 11/17/1995
Today's date is 09/01/2017
```

Part B: Calculating the user's age in years, months and days.

- Using the years, months and days from Part A, calculate the user's age in years, months and days
- You can assume that month is always 30 days

Example Output:

```
You have been alive for 21 years 9 months 19 days
```