Python Boot Camp
Summer 2020
Assignment # 01
Due: Saturday June 13, 2020, 1:30 PM EST.

Programming Challenge 1 – Temperature convertor (3 points):

Write a Python script that provides the user with two options:

- 1. Converts user input from degrees Fahrenheit to Celsius
- 2. Converts user input from degrees Fahrenheit to Kelvin

If the user picks option 1, allow the user to input a temperature reading in Fahrenheit. Then output the temperature reading in degrees Celsius. If the user picks option 2, allow the user to input a temperature reading in Fahrenheit. Then output the temperature reading in degrees Kelvin.

You may need the following conversion formulas:

$$Celsius = \frac{5}{9} * (Fahrenheit - 32)$$

$$Kelvin = \left(\frac{5}{9} * (Fahrenheit - 32)\right) + 273.15$$

The final line of your output should look like one of the follow:

- If the user chose option 1:
  - ***f*** Fahrenheit is ***c*** Celsius
    - where ***f*** is degrees in Fahrenheit (user input) and ***c*** is degrees in Celsius (program output)
- If the user chose option 2:
  - ***f*** Fahrenheit is ***k*** Celsius
    - where ***f*** is degrees in Fahrenheit (user input) and ***k*** is Kelvin (program output)
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Programming Challenge 2 – 3&7 Fizz-Buzz (3 points):

Write a Python Script that takes a user input (call it N). Write a loop that iterates from 1 to N. If a number is divisible by 3 but NOT divisible by 7, print "Fizz" followed by the number. If a number is divisible by 7 but NOT 3, print "Buzz" followed by the number. If it is both divisible by 3 and 7, print "FizzBuzz", followed by the number.

Programming Challenge 3 – Day of the Programmer (3 points):

In Russia, the day of the programming is observed on the 256th day of every year from 1700 to 2700 inclusive. In 1918, Russia switched to the Gregorian calendar, thus the day of the programmer that year was September 26th. In all leap years, the day of the programmer is September 12th. If it is not a leap year or the year 1918, the day of the programmer is on September 13th.

Write a script that asks a user to input a year. The script should output one of the following:

If the year is outside the range of 1700 to 2700 inclusive	"Invalid year. Pick anther year (between 1700-2700)"
If the year is 1918	"This year, the day of the programmer is 09.26"
If the year is a leap year	"This year, the day of the programmer is 09.12"
In all other years	"This year, the day of the programmer is 09.13"

Programming Challenge 4 – Prime or not (3 points):

A prime number is a number that is only evenly divisible by itself and 1.

Write a Python Script that takes a user input. The Python script should determine if a number is prime number or not.

Assignment #1 Grading Criteria

The assignment will be graded based on the following:

- Functionality – 1 point
- Accuracy – 1 point
- Readability – 1 point
- Extra Credit – 1 point for each question.
    - Make a nice print out for user menu options (as we did in class)

Each question is worth a total of 3 points with a chance of 1 point extra credit.

In this assignment, functionality and readability is worth more than accuracy. **Hints will be posted in Chat every Wednesday at about 9 P.M EST.**

Assignment weight – 10 points

$$Final\ grade\ impact = \frac{Assignment\ grade}{15} * 10$$