

INDIVIDUAL ASSIGNMENT #1

Date Given: May 25, 2021
Date Due: June 12, 2021
Weight: 20%

The work done must solely and entirely be your own however working with another student or individual, or using anyone else's work in any way is a violation of the code of academic integrity and will receive **ZERO** score. You are welcome and encourage discussing topics among your classmates however the assignment must be done individually. In the comments at the top of your program add the disclaimer: **"I CERTIFY THAT I HAVE NOT GIVEN OR RECEIVED ANY UNAUTHORIZED ASSISTANCE ON THIS ASSIGNMENT"**

Problem Description:

Create a program and using a menu to perform the following options:

- a. Popular children song
- b. Circumference and Area of a circle
- c. Temperature outside/inside
- d. Quit

1. A popular children's song goes like this:

```
1 man went to mow, went to mow a meadow,  
1 man and his dog, went to mow a meadow.  
2 men went to mow, went to mow a meadow,  
2 men, 1 man and his dog, went to mow a meadow.  
3 men went to mow, went to mow a meadow,  
3 men, 2 men, 1 man and his dog, went to mow a meadow.  
etc.
```

Write a program that will print this song. Store the number of men in a variable, and make sure that your program can handle any number of verses. test it by changing the number of men. Try printing out "12 men went to mow"!

HINT - you will need nested loops for this (ie a loop inside a loop), and don't forget your grammar (it is 2 men but 1 man)!!

2. Write a program that calculates and displays the circumference and area of a circle. You should provide it with a radius by setting that value into a variable called “radius”. NB circumference = $2\pi r$, and area = πr^2 , and assume that π is 3.14159. Test your program with known data (ie calculate the answer yourself).

3. Write a program that creates two variables called inside_temp and outside_temp. Set temperatures (as degrees C) into these variables, representing the temperature inside as 40 and outside as -18. Your program should then analyze these two temperatures and print out the following information.
 - a) Print whether it is warmer inside, or outside or whether the temperatures are the same.
 - b) If either temperature is below 20 then print “it is freezing outside/inside”
 - c) If either temperature is above 30 then print “it is hot outside/inside”.

You are required to submit:

1. The binary source code in Python.
2. The Readme file
3. You must submit the program regardless whether it complete or incomplete, correct or incorrect.

Submission Guideline:

Upload your project in Moodle. Save your work in PY using the format. Compressed all files using WinZip. The extension of the file MUST BE in the Format

PT_CWK1_Lastname_Firstname.zip

Programming Rubric – 100%

Criterion	Approx. % of Grade	Excellent (100%)	Adequate (80%)	Poor (60%)	Not Met (0%)
Program Specifications / Correctness	50%*	No errors, program always works correctly and meets the specification(s).	Minor details of the program specification are violated, program functions incorrectly for some inputs.	Significant details of the specification are violated, program often exhibits incorrect behavior.	Program only functions correctly in very limited cases or not at all.
Readability	20%	No errors, code is clean, understandable, and well-organized.	Minor issues with consistent indentation, use of whitespace, variable naming, or general organization.	At least one major issue with indentation, whitespace, variable names, or organization.	Major problems with at three or four of the readability subcategories.

Documentation	20%	No errors, code is well-commented. Readme file submitted.	One or two places that could benefit from comments are missing them or the code is <i>overly</i> commented. Readme file is poorly written.	File header missing, complicated lines or sections of code uncommented or lacking meaningful comments. Incomplete readme file.	No file header or comments present. No readme file submitted.
Code Efficiency	5%	No errors, code uses the best approach in every case.	N/A	Code uses poorly-chosen approaches in at least one place.	Many things in the code could have been accomplished in an easier, faster, or otherwise better fashion.
Assignment Specifications	5%	No errors	N/A	Minor details of the assignment specification are violated, such as files named incorrectly or extra instructions slightly misunderstood.	Significant details of the specification are violated, such as extra instructions ignored or entirely misunderstood.