

CPSC 217 Exercise 3: Better Human Years and Dog Years

Due: Friday May 24, 2024 at 11:55pm

This exercise may be completed individually or as part of a group. If the exercise is completed as a group then all members of the group are expected to make a meaningful contribution to the solution.

Task:

In Exercise 1, you created a program that read a person's age and then displayed a message that included the person's age in dog years. In that exercise the age in dog years was computed by multiplying the age by 7, but some people believe that such a conversion to dog years is poor because most dogs reach adulthood by two years of age, and then age more slowly. They suggest that it is better if the first two human years each count as 10.5 dog years and each subsequent human year counts as only 4 dog years.

Create a program that reads an age in human years and converts it to dog years using the better conversion described in the previous paragraph. Ensure that your program works correctly for both integer and real number ages. **Your program should use a loop so that the user can keep on entering values to convert until a value less than 0 is entered.**

Example input and output #1 (user input is shown in bold):

Enter an age in human years: **1**
That's equivalent to 10.5 dog years.
Enter an age in human years: **2**
That's equivalent to 21.0 dog years.
Enter an age in human years: **0**
That's equivalent to 0.0 dog years.
Enter an age in human years: **-1**

Example input and output #2 (user input is shown in bold):

Enter an age in human years: **3**
That's equivalent to 25.0 dog years.
Enter an age in human years: **4.1**
That's equivalent to 29.4 dog years.
Enter an age in human years: **-3.14**

Grading:

Your program will be tested with three different sets of input values (which may be different from the examples shown above). The following chart shows the grade that will be earned based on the number of test cases that generate correct results:

Test Cases Passed	Grade
3	A
2	B-
1	D+
0	F

Submission Instructions:

Submit your solution as a Python source code file electronically to the Exercise 3 drop box in D2L. You do **not** need to submit a paper copy of your solution. If you choose to complete this exercise as part of a group then each member of the group must submit a copy of the exercise using D2L.