CE 232 Exam 2

This is an O3 exam

Submit your .py file to the homework email. With a subject line: Exam 2

1. **(25 points)** Use the 'zip' function to combine the two lists into a dictionary: (List 1 has the keys, List 2 has the Values)
List 1: skills = ['Python', 'C++', 'C', 'PHP']
List 2: people = [['Mark', 'Jack'], ['Rack', 'Nike'], ['Mark', 'Jack', 'Nike'], ['Rack']]

Design a function to reverse the keys and values. The result should be:
{'Mark': ['Python', 'C'], 'Jack': ['Python', 'C'], 'Rack': ['C++', 'PHP'], 'Nike': ['C++', 'C']}

2. **(25 points)** Design a sequence detector that can pass a LIST of numbers into the function and tell if the numbers in this list follow a certain sequence (the difference between two adjacent numbers are the same). For example [1, 3, 5, 7, 9], has Δ=2, [5, 8, 11, 14, 17] has Δ=3.

3. **(25 points)** When you were young, your parents said you could have pets if you promise to take care of the them. Now, design a class named 'Pet', has attributes of name, species, and breed. Also, Class Pet has two methods:
(1) A method to print out a description of itself. For example: 'My name is *NAME*, I am a *BREED SPECIES*'. The capitalized Italic fonts are variables.
(2) A method to print out how many pets do I have so far (every time you instantiate one pet, the counter adds one to itself).

Instantiate three different pets using Class Pet and invoke the two methods after each of the three instantiations.

4. **(25 points)** The data collected from a sensor is organized in a list:
Data = [99, 2, 99, 4, 8, 0, 3, 4, 99, 7, 10], in which '99' is an error code.
Define a function to move all the '99' to the end of the list: **[2, 4, 8, 0, 3, 4, 7, 10, 99, 99, 99]**