CS 1450 Intro to Object-Oriented Programming

Midterm Assignment

Fall 2023 Semester

Date of Assignment: 9/27/2023

Deadline: 10/6/2023 by Midnight

Total points: 150 points

Instructor: Patrik Boloz, M.S.

Create and submit 3 Python files with each of the code answering these 3 tasks:

1) A number raised to the third power is called a cube. For example, the cube of 2 is written as 2**3 in Python. Create a list of numbers (num_list) from 1 to 10. Then create an empty list called cube_list. By using the for loop, raise every number from the num_list to the third power and save the new numbers in the cube_list. In the end, print out both the num_list and cube_list by using the print statements. (50 points)

2) Make a dictionary called cities. Use the name of three cities as keys in your dictionary. Create a dictionary of information about each city and include the country that the city is in, its approximate population, and one fact about that city. The keys for the city's dictionary should be Country of Origin, Population, and Fact. Then by using the for loop, print out each city from the cities dictionary and all the city's information. (50 points)

3) A movie theater charges different ticket prices depending on a person's age. If a person is under the age of 3, the ticket is free; if they are between 3 and 18, the ticket is $10; if they are between 18 and 65, the ticket is $13; and if they are older than 65, the ticket is $8. Write a while loop, where you will ask a user for their age and by using if-elif-else statements, tell the person what the ticket price will be. After each purchase, ask the user if they want to buy more tickets. If they don't, break out of the loop and tell them to have a great time at the movies. (50 points)

To save on paper, each task has its expected output shown as a screenshot of the terminal on Brightspace under the Assignments > Midterm Assignment tab. Please submit all 3 files (for example bolozp_midterm1.py, bolozp_midterm2.py, bolozp_midtertm3.py) to Brightspace before the deadline.