import copy

import decimal

import random

import types

# 1. Write a Python program to shuffle the elements of a given list. Use random.shuffle()

def shuffle(list1):

    random.shuffle(list1)

    return list1

print()

print("<< QUESTION 1 >>")

list1 = [1,4,6,9]

print("Original:", list1)

print("Shuffle:", shuffle(list1))

print()

# 2. Write a Python program to check if a given function is a generator or not.

# Use types.GeneratorType()

def greet\_1(greet):

    return greet

def greet\_2(greet):

    yield greet

print("<< QUESTION 2 >>")

print("Is Generator: ", isinstance(greet\_1('Hello ungu'), types.GeneratorType))

print("Is Generator: ", isinstance(greet\_2('Hello ezra'), types.GeneratorType))

print()

# 3. Write a Python program to configure the rounding to round to the nearest

# - with ties going towards 0, with ties going away from 0.

# Use decimal.ROUND\_HALF\_DOWN, decimal.ROUND\_HALF\_UP

def round\_up(val\_1):

    con\_1 = decimal.Decimal(val\_1)

    out\_1 = decimal.Decimal(con\_1.quantize(decimal.Decimal('0'), rounding=decimal.ROUND\_HALF\_UP))

    return out\_1

print("<< QUESTION 3 >>")

print("ROUND\_HALF\_UP: ", round\_up(3.55))

def round\_down(val\_2):

    con\_2 = decimal.Decimal(val\_2)

    out\_2 = decimal.Decimal(con\_2.quantize(decimal.Decimal('0'), rounding=decimal.ROUND\_HALF\_DOWN))

    return out\_2

print("ROUND\_HALF\_DOWN: ", round\_down(3.24))

print()

# 4. Write a Python program to create a shallow and deep copy of a

# given dictionary. Use copy.copy

def shallow\_deep\_copy(dictionary\_1):

    print("ID:", id(dictionary\_1), "Original:", dictionary\_1)

    s\_copy = copy.copy(dictionary\_1)

    d\_copy = copy.deepcopy(dictionary\_1)

    print("ID:", id(s\_copy), "Shallow copy:", s\_copy)

    print("ID:", id(d\_copy), "Deep copy:", d\_copy)

    print()

    dictionary\_1.update({"age": 30})

    print("ID:", id(dictionary\_1), "Value:", dictionary\_1)

    print("ID:", id(s\_copy), "Value:", s\_copy)

    print("ID:", id(d\_copy), "Value:", d\_copy)

print("<< QUESTION 4 >>")

shallow\_deep\_copy({"name": "Ezra", "age": 20})

print()

# 5. Write a Python program to count the number of lines in

# a given CSV file. Use csv.reader

def count\_lines(csv\_file):

    # DataCleansingAct\no\_moh\_data.csv

    count = 1

    with open(csv\_file, 'r') as csv\_reader:

        for line in csv\_reader.read().splitlines():

            count += 1

    return count

print("<< QUESTION 5 >>")

print("The number of lines in file:", count\_lines('DataCleansingAct\\no\_moh\_data.csv'))

print()

