# Solutions for Session 9

#### Task1:

Write a Python program to generate a random alphabetical character, alphabetical string, and alphabetical string of a fixed length.

import random  
import string  
print("Generate a random alphabetical character:")  
print(random.choice(string.ascii\_letters))  
print("\n Generate a random alphabetical string:")  
max\_length = 255  
str1 = ""  
**for** i **in** range(random.randint(1, max\_length)):  
 str1 += random.choice(string.ascii\_letters)  
print(str1)  
print("\n Generate a random alphabetical string of a fixed length:")  
str1 = ""  
**for** i **in** range(10):  
 str1 += random.choice(string.ascii\_letters)  
print(str1)

#### Task2:

Write a Python program to construct a seeded random number generator, also generate a float between 0 and 1, excluding 1.

import random  
print("Construct a seeded random number generator:")  
print(random.Random().random())  
print(random.Random(0).random())  
print("\n Generate a float between 0 and 1, excluding 1:")  
print(random.random())

#### Task3:

Write a Python program to select a random element from a list

import random  
import os  
print("Select a random element from a list:")  
elements = [1, 2, 3, 4, 5]  
print(random.choice(elements))  
print(random.choice(elements))  
print(random.choice(elements))  
print("\n Select a random element from a set:")  
elements = set([1, 2, 3, 4, 5])

#### Task4:

Write a Python program to generate a float between 0 and 1, inclusive, and generate a random float within a specific range.

import random   
print("Generate a float between 0 and 1, inclusive:")  
print(random.uniform(0, 1))  
print("\n Generate a random float within a range:")  
random\_float = random.uniform(1.0, 3.0)  
print(random\_float)

#### Task5:

Write a Python program to create a list of random integers and randomly select multiple items from the said list.

import random   
print("Create a list of random integers:")  
population = range(0, 100)  
nums\_list = random.sample(population, 10)  
print(nums\_list)  
no\_elements = 4

Create a list of random integers:  
[2, 43, 62, 85, 97, 48, 47, 10, 87, 13]

#### Task6:

Write a Python program to configure the rounding to round up and round down a given decimal value. Use decimal. Decimal

import decimal  
print("Configure the rounding to round to the nearest, with ties going to the nearest even integer:")  
decimal.getcontext().prec = 1  
decimal.getcontext().rounding = decimal.ROUND\_HALF\_EVEN  
print(decimal.Decimal(10) / decimal.Decimal(4))

Configure the rounding to round to the nearest, with ties going to the nearest even integer:  
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