**Assignment 4**

**# Problem 1**

import random

num\_dice = int(input("How many dice do you want to roll? "))

total\_sum = 0

for \_ in range(num\_dice):

roll = random.randint(1, 6)

total\_sum += roll

print(f"The total sum of the rolled dice is: {total\_sum}")

**# Problem 2**

numbers = []

while True:

user\_input = input("Enter a number (or press enter to quit): ")

if user\_input == "": # Stop if input is empty

break

numbers.append(int(user\_input))

numbers.sort(reverse=True)

print("The five greatest numbers are:", numbers[:5])

**# Problem 3**

def is\_prime(n):

if n <= 1:

return False

for i in range(2, int(n\*\*0.5) + 1):

if n % i == 0:

return False

return True

num = int(input("Enter an integer: "))

if is\_prime(num):

print(f"{num} is a prime number.")

else:

print(f"{num} is not a prime number.")

**# Problem 4**

cities = []

for \_ in range(5):

city = input("Enter the name of a city: ")

cities.append(city)

print("The cities you entered are:")

for city in cities:

print(city)