# 5. Write a Python program to iterate over dictionaries using for loops.

d1 = {1:100, 2:200, 3:300}

key = list(d1) # Convert the dictionary keys to a list

i = 0 # Initialize a counter variable

while i < len(key):

print(key[i],":",d1[key[i]])

i+=1

# 6. Write a Python script to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x\*x).

# Sample Dictionary ( n = 5) :

# Expected Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

def generate\_dict(n):

dictionary = {}

i = 1

while i <= n:

dictionary[i] = i\*i

i += 1

return dictionary

n = int(input("Enter the number to genetare dictionary: "))

print(generate\_dict(n))

# 7. Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.

# {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}

dictionary = {}

i = 1

while i <= 15:

dictionary[i] = i\*i

i += 1

print(dictionary)

# 9. Write a Python program to iterate over dictionaries using for loops.

d1 = {1:100, 2:200, 3:300}

key = list(d1) # Convert the dictionary keys to a list

i = 0 # Initialize a counter variable

while i < len(key):

print(key[i],":",d1[key[i]])

i+=1

# 10. Write a Python program to sum all the items in a dictionary.

def sum\_dict(dictioanry):

sum = 0 # initialize the sum to 0

i = 0

keys = list(dictioanry.keys()) # convert the dictionary keys to a list using the list() function

while i < len(dictioanry): # use a while loop to iterate over the keys

sum += dictioanry[keys[i]] # for each key, add the corresponding value to the sum

i+=1 # increment the loop counter i by 1

return sum #return the final product

d = {'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e' : 5}

print(sum\_dict(d))

# 11. Write a Python program to multiply all the items in a dictionary.

def multiply\_dict(dictioanry):

product = 1 # initialize the product to 1

i = 0

keys = list(dictioanry.keys()) # convert the dictionary keys to a list using the list() function

while i < len(dictioanry): # use a while loop to iterate over the keys

product \*= dictioanry[keys[i]] # for each key, multiply the product by the corresponding value.

i+=1 # increment the loop counter i by 1

return product #return the final product

d = {'a': 1, 'b': 2, 'c': 3, 'd': 4}

print(multiply\_dict(d))

# 14. Write a Python program to sort a dictionary by key.

def sort\_dict(dictionary):

keys = list(dictionary.keys())

i = 0

while i < len(keys):

j = i + 1

while j < len(keys):

if keys[i] > keys[j]:

keys[i], keys[j] = keys[j], keys[i]

j += 1

i += 1

sorted\_dict = {}

for key in keys:

sorted\_dict[key] = dictionary[key]

return sorted\_dict

d = {'c': 3, 'a': 1, 'b': 2, 'd': 4}

print(sort\_dict(d))

# Descending

sort\_dict = dict(sorted(d.items(), reverse = True))

print(sort\_dict)

'''sort\_dict = dict(sorted(d.items(), reverse = False))

print(sort\_dict)

'''