#1 Write a Python program to create a list of numbers from 1 to 10 and print it.

# l=[i for i in range(1,11)]

# print(l)

# output:

# [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

#2 Check if a given string is a palindrome (reads the same backward as forward).

# r=input('Enter String:')

# if(r==r[::-1]):

#     print('Palindrom')

# else:

#     print('Not Palindrom')

# output:

# Enter String:laba

# Not Palindrom

# Enter String:mom

# Palindrom

#3 Write a Python program to count the occurrences of each character in a given string using a dictionary.

# s=input("Enter strin: ")

# d={i:s.count(i) for i in s}

# print(d)

#4 Create a set of unique vowels from a user-provided string.

# s=input('enter string: ')

# v='aioueAIOUE'

# s1=set()

# for i in s:

#     if i in v:

#         s1.add(i)

# print(s1)

# output:

# enter string: lavanya

# {'a'}

#5 Use a conditional statement to check whether a number entered by the user is even or odd.

# n=int(input("Enter no: "))

# print('even') if n%2==0 else print('ODD')

# output:

# Enter no: 8

# even

# Enter no: 5

# ODD

#6 Write a Python program to print the first 10 Fibonacci numbers using a loop.

#7 Create a dictionary where keys are numbers from 1 to 5, and values are their squares. Iterate over this dictionary to print each key-value pair.

# d={k:k\*\*2 for k in range(1,6)}

# for k in d.items():

#     print(k)

# output:(1, 1)

# (2, 4)

# (3, 9)

# (4, 16)

# (5, 25)

#8 Use nested loops to generate the following pattern:

# 1

# 1 2

# 1 2 3

# 1 2 3 4

# for i in range(4):

#     for j in range(1,i+2):

#         print(j,end=" ")

#     print()

# output:

# 1

# 1 2

# 1 2 3

# 1 2 3 4

#9 Write a function to calculate the factorial of a number using recursion.

# n=int(input("Enter no: "))

# def fact(n):

#     if n==1:

#         return 1

#     else:

#         return n\*fact(n-1)

# print(fact(n))

# output:

# Enter no: 5

# 120

#10 Write a Python program to find the second largest number in a list using loops (without using built-in functions).

# l=[10,20,30,30,40,40]

# l=list(set(l))

# for i in range(len(l)-1):

#     t=0

#     if l[i]<l[i+1]:

#         t=l[i]

#         l[i]=l[i+1]

#         l[i+1]=t

# print(l[1])

# output:

# 20

#11 Use enumerate to print the index and value of each item in a tuple.

# t=(10,20,30,40)

# for i,x in enumerate(t):

#     print(i,x)

# output:

# 0 10

# 1 20

# 2 30

# 3 40

#12 Implement a program that checks whether a given number is a prime number using a loop and nested conditional statements.

# n=int(input("enter no: "))

# f=0

# for i in range(2,n):

#     if n%i==0:

#         f=1

# if f==1:

#     print("Not Prime")

# else:

#     print("Prime")

# output:

# enter no: 6

# Not Prime

# Prime

#13 Write a Python program to merge two dictionaries and sum the values of common keys.

# d1={'a':23,'b':45}

# d2={'b':4,'c':90}

# d={}

# for k in d1.keys():

#     if k in d2.keys():

#         d.update({k:d1[k]+d2[k]})

#         d2.pop(k)

#     else:

#         d.update({k:d1[k]})

# for k in d2.keys():

#     d.update({k:d2[k]})

# print(d)

# output:

# {'a': 23, 'b': 49, 'c': 90}

#14 Write a program to generate Pascal's triangle up to a given number of rows using nested loops.

# n=int(input("enter no: "))

#15 Create a lambda function to filter out even numbers from a list of integers.

# l=[10,20,33,40,51]

# for k in l:

#    if (lambda i: i%2==0)(k):

#       print(k)

# output: 10,20,30

#16 Write a Python program to reverse the words in a sentence using list comprehensions and string manipulation.

# s='i am python'

# l=s.split(" ")

# r=" ".join([l[x] for x in range(len(l)-1,-1,-1)])

# print(r)

# output:python am i

#17 Write a recursive function to compute the sum of all elements in a nested list (e.g., [[1, 2, [3, 4]], 5]).

#18 Use a nested loop to create the following pattern:

# \*

# \* \*

# \* \* \*

# \* \*

# \*

#19 Implement a program that creates a dictionary from a string where each word is a key, and its value is the frequency of the word.

# l='am python  am python javascript included'

# d={i:l.count(i) for i in l.split(" ")}

# print(d)

# output:

# {'am': 2, 'python': 2, '': 41, 'javascript': 1, 'included': 1}

#20 Write a Python program that takes a list of tuples, sorts them based on the second element of each tuple using a lambda function, and prints the result.

# l=[(10,20),(30,40),(50,1),(60,2)]

# print(sorted(l,key=lambda l:l[1]))