Q1:

a=input("enter string: ")

print("String in reverse order: ",a[::-1])

Q2:

a=input("enter text: ")

print(type(a))

Q3:

a=input("enter expression: ")

result = eval(a)

print("final ans is: ",result)

Q4:

a=input("enter first number: ")

b=input("enter secound number: ")

if a > b :

print("first number(",a,")is biger than secound number(",b,")")

if a < b:

print("secound number(",b,")is biger than first number(",a,")")

if a == b:

print("first number(",a,")is equal to secound number(",b,")")

if a != b:

print("first number(",a,")is not equal to secound number(",b,")")

if a <= b:

print("first number(", a, ")is less than equal to secound number(", b, ")")

if a >= b:

print("first number(", a, ")is greater than equal to secound number(", b, ")")

Q5:

a=int(input("enter a number: "))

c=0

if a==1:

c=1

else:

for i in range(2,a-1,1):

if a%i==0:

c=1

break

if c==0:

print("prime")

else:

print("not prime")

Q6:

import random

n=random.randint(1,20)

m=5

print("guess the number")

while(m>0):

a=int(input())

if a==n:

print("yeah you did it")

break

elif a>n:

print("too high than expected")

m-=1

else:

print("too small than expected")

m -= 1

if m==0:

print("you have no attemts")

Q7:

a = list(map(int, input("Enter numbers separated by spaces: ").split()))

a.sort()

sum\_values = 0

for i in a:

sum\_values += i

mean = sum\_values / len(a)

n = len(a)

if n % 2 == 1:

median = a[n // 2]

else:

median = (a[n // 2 - 1] + a[n // 2]) / 2

frequency = {}

for num in a:

if num in frequency:

frequency[num] += 1

else:

frequency[num] = 1

max\_freq = max(frequency.values())

modes = [key for key, val in frequency.items() if val == max\_freq]

print(f"Mean is: {mean}")

print(f"Median is: {median}")

if len(modes) == 1:

print(f"Mode is: {modes[0]}")

else:

print(f"Mode is: No unique mode (modes are {modes})")

Q8:

a=list(map(int,input("enter first list: ").split()))

a=set(a)

b=list(map(int,input("enter Secound list: ").split()))

b=set(b)

print("union operation: ",list(a|b))

print("intersection operation: ",list(a&b))

print("symetric difference: ",list(a^b))

Q9:

tpl=[(30,'g'),(3,'b'),(1,'a')]

D=dict(tpl)

S\_D=dict(sorted(D.items()))

print("sorted dictionary is: ",S\_D)

Q10:

input\_file = "input.txt"

output\_file = "output.txt"

with open(input\_file, 'r') as file:

text = file.read()

word\_counts = {}

for word in text.split():

word = word.lower().strip(",.!?")

word\_counts[word] = word\_counts.get(word, 0) + 1

with open(output\_file, 'w') as file:

for word, count in word\_counts.items():

file.write(f"{word}: {count}\n")

print("Word have been saved to", output\_file)