**Assignment 4**

1. Write a program to reverse a string.

Sample data: “1234abcd”

Expected Output: “dcba4321”

def reverse(s):

s=s[::-1]

return s

b="123bcd"

print("the original string ", )

print(b)

print(reverse(b))

2. Write a function that accepts a string and calculate the number of uppercase letters and lowercase letters.

Expected Output:

No. of Upper case characters : 3

No. of Lower case Characters : 12

def ch(s):

global b

b=0

global c

c=0

for i in s:

if (i.isupper()) == True:

b=b+1

elif (i.islower() )== True:

c=c+1

return b,c

print(ch(str(input("enter any string :-"))))

print("No. of Upper case characters : ", b)

print("No. of Lower case Characters : ",c)

3. Create a function that takes a list and returns a new list with unique elements of the first list.

**def check(l):**

**list1=[]**

**for i in l:**

**if i not in list1:**

**list1.append(i)**

**return list1**

**print(check([1,1,1,13,3,3,2,2,2,4]))**

**#or**

**def double(l):**

**var=set(l)**

**var=list(var)**

**return var**

**print(double([1,1,1,2,2,23,23,4,45,57,8]))**

4. Write a program that accepts a hyphen-separated sequence of words as input and prints the words in a hyphen-separated sequence after sorting them alphabetically.

**def char(k):**

**l=" "**

**w=k.split("-")**

**w.sort()**

**l="-".join(w)**

**return l**

**print(char("k-j-h-g-f-d-s-a-q"))**

5. Write a program that accepts a sequence of lines as input and prints the lines after making all characters in the sentence capitalized.

Sample input:

Hello world

Practice makes perfect

Expected Output:

HELLO WORLD

PRACTICE MAKES PERFECT

6. Define a function that can receive two integral numbers in string form and compute their sum and print it in console.

k=str(input("enter a string"))

h=str(input("enter a string"))

def num(k,h):

# k=str(input("enter a string"))

# h=str(input("enter a string"))

print(type(k))

r=int(k)

l=int(h)

y=r+l

return y

print(num(k,h))

7. Define a function that can accept two strings as input and print the string with maximum length in console. If two strings have the same length, then the function should print all strings line by line.

k=str(input("enter a string first "))

h=str(input("enter a string seconf "))

def lenght(k,h):

print("length of string first ",len(k))

print("length of string second ",len(h))

if len(k)==len(h):

r=k+h

return r

print(lenght(k,h))

8. Define a function which can generate and print a tuple where the value are square of numbers between 1 and 20.

var=map(lambda x:x\*\*2 ,range(1,20))

print(tuple(var))

9. Write a function called showNumbers that takes a parameter called limit. It should print all the numbers between 0 and limit with a label to identify the even and odd numbers.

Example: If the limit is 3 , it should print:

0 EVEN

1 ODD

2 EVEN

3 ODD

def showNumber(limit):

for i in range(limit):

if i%2==0:

print(i,"EVEN")

else:

print(i,"ODD")

print(showNumber(int(input("enter the limit "))))

10. Write a program which can filter() to make a list whose elements are even number between 1 and 20 ( both included)

**#question 10**

**even=list(filter(lambda x:x%2==0, range(1,21)))**

**print(even)**

11. Write a program which can map() and filter() to make a list whose elements are square of even number in [1,2,3,4,5,6,7,8,9,10]

**#question 11**

**square=list(map(lambda x:x\*\*2, range(1,11)))**

**print(square)**

**even=list(filter(lambda x:x%2==0, square))**

**print(even)**

12. Write a function to compute 5/0 and use try/except to catch the exceptions

**def error(k):**

**try:**

**if k%0==0:**

**print("try is working")**

**except:**

**print("except is working ")**

**print(error(0))**

13. Flatten the list [[1,2,3],[4,5],[6,7,8]] into [1,2,3,4,5,6,7,8] using reduce

Goal : Turn [1,2,3,4,5,6,7] to 1234567

**from functools import reduce**

**import operator**

**x=[[1,2,3],[2,3,4],[6,7,8]]**

**var=reduce( operator.add, x)**

**print(var)**

14. What is the output of the following codes:

(i) def foo():

try:

return 1

finally:

return 2

k = foo()

print(k)

Output will be 2

(ii) def a():

try:

f(x, 4)

finally:

print('after f')

print('after f?')

a()

**Output will be nameerror because of f**