PYTHON ASSIGNMENT: 5

Q1. Write a program which can compute the factorial of a given numbers. The result should be printed in a comma-seperated sequence on a single line.

def fact(n):

p=1

for i in range(n,0,-1):

p=p\*i;

return p

mylist=[int(x) for x in input().split(" ")]

mylist2=[]

for ch in mylist:

mylist2.append(fact(ch))

for j in range(len(mylist2)):

print(mylist2[j],sep=(", "),end=", ")

Q2. Write a program which accepts a sequence of comma separated numbers from console and generate a list and a tuple which contains every number.

num=[int(x) for x in input().split(",")]

mylist=list(num)

mytuple=tuple(mylist)

print(mylist)

print(mytuple)

Q3. Write a program that calculates and prints the value according to the given formula Q: square\_root(2\*C\*D)/H

mylist=[int(x) for x in input().split(",")]

mylist2=[]

for i in mylist:

mylist2.append(int(((i\*10)/3)\*\*0.5))

print(",".join(str(j) for j in mylist2))

Q4. Write a program which accepts a sequence of comma separated of words as input and prints the words in a comma separated sequence after sorting them alphabetically .

mylist=[x for x in input().split(",")]

mylist.sort()

print(",".join(str(ch) for ch in mylist))

Q5. Write a program which accepts a sequence of comma separated 4 digit binary numbers as its input and then check whether they are divisible by 5 or not.

mylist = []

num = [i for i in input().split(',')]

for p in num:

i = int(p, 2)

if not i%5:

mylist.append(p)

print(','.join(mylist))

Q6. Write a program that computes the net amount of a bank account based on a transaction log from console input.

sum=0

while True:

a=input()

if a:

new=a.split(" ")

deposit\_withdraw=new[0]

n=int(new[1])

if deposit\_withdraw=='D':

sum+=n

elif deposit\_withdraw=='W':

sum-=n

else:

break

print(sum)

Q7. You are required to write a program to sort the (name, age, height) tuples by ascending order where name is string , age and height are numbers . The tuples are input by console.

a=[ ]

while True:

l=input("").split()

if (len(l)==0):

break;

a.append(l)

a.sort()

print(a)

Q8. A robot moves in a plane starting from the original point (0,0). The robot can move toward up, down, left and right with a given step.

pos=[0,0]

n=int(input("Enter number of steps to taken: "))

while n>0:

a=input("Enter direction and steps: ")

mylist=a.split(" ")

dire=str(mylist[0])

steps=int(mylist[1])

if dire=="U":

pos[1]+=steps

elif dire=="L":

pos[1]-=steps

elif dire=="R":

pos[0]+=steps

elif dire=="L":

pos[0]-=steps

n-=1

print(f"Distance is: {(pos[0]\*\*2 + pos[1]\*\*2)\*\*0.5}")

Q9.Write a program to compute the frequency of the words from the input, The output should output after sorting the key alphanumerically.

a=input("Enter a string: ")

dict1={}

for ch in a.split():

dict1[ch]=dict1.get(ch,0)+1

for i in sorted(dict1):

print(f"{i}:{dict1[i]}")

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