**ASSIGNMENT PYTHON**

**PART-1**

1. mylist=[1,1,5,1,1]

d={}

for i in mylist:

  if i in d:

    d[i]+=1

  else:

    d[i]=1

for i in d:

    if(d[i]==1):

        print(i)

        break

2. mylist=[1,1,5,1,1,2]

m=sum(mylist)/len(mylist)

d={}

for i in mylist:

  if i not in d:

    d[i]=abs(m-i)

print(d)

a=d[1]

b=0

for i in d:

  if(a>=d[i]):

    a=d[i]

    b=i

print(b)

3. # Lets assume time interval = 60 sec, distance in meters

time\_interval=60

l=[0,0.1,0.25,0.45,0.55,0.7,0.9,1.0]

total\_time=len(l)\*time\_interval

total\_dist=sum(l)

avg\_speed=total\_dist/total\_time

print(avg\_speed)

4. b=10

print('enter details')

while(True):

  x=input('enter a to enter onboarding or b for alighting or press any other key to exit')

  if(x=='a'):

     b+=int(input())

  elif(x=='b'):

    b-=int(input())

  else:

    break

print('No of people on bus',b)

5. l=[1,2,3,4,5]

a=[2,3,4,5]

for i in l:

  if(i not in a):

    print(i)

print(sum(l)-sum(a))

6. l=[i for i in range(2,20,3)]

l.sort(reverse=True)

print(abs(l.pop()-l.pop()))

7. l=[i for i in range(2,20,3)]

m=sum(l)/len(l)

count=0

for i in l:

  if(i<m):

    count+=1

print(count)

**PART-2**

1. x=input('enter  malformed time in hh:mm:ss')

sec=str(int(x[-2:])%60)

extra\_min=int(x[-2:])//60

min=str((extra\_min+int(x[-5:-3])%60))

extra\_hour=(extra\_min+int(x[-5:-3]))//60

hour=str(extra\_hour+int(x[:-6]))

print(hour+':'+min+':'+sec)

2. x=input('enter malformed date in dd/mm/yyyy')

day=str(int(x[:-8])%30)

extra\_month=int(x[:-8])//30

month=str((extra\_month+int(x[-7]\*10)+int(x[-6]))%12)

extra\_year=(extra\_month+int(x[-7:-5]))//12

year=str(extra\_year+int(x[-4:]))

print(day+'/'+month+'/'+year)

3. def int2ip(num):

s = []

for i in range(4):

s.append(str(num %256))

num //= 256

return '.'.join(s[::-1])

def ip2int(ip):

res = 0

for j, i in enumerate(ip.split('.')[::-1]):

res += 256\*\*j\*int(i)

return res

4. s=input('Enter string')

d={}

count=0

for i in s:

  if(i not in d):

    d[i]=1

  else:

    count+=1

if count!=0:

  print('Not isogram')

else:

  print('isogram')

5. s=input('enter string')

for i in range(len(s)):

  print(s[:i]+s[i].upper()+s[i+1:])

6. x=input('enter number')

l=[]

for i in range(len(x)):

  l.append(int(x[:i]+x[i+1:]))

print(l)

print(max(l))

7. x=input('Enter number')

a=list(map(int,list(x)))

a.sort(reverse=True)

s=''

for i in a:

  s+=str(i)

print(s)

8. def freq(str):

    str = str.split()

    str2 = []

    for i in str:

        if i not in str2:

            str2.append(i)

    for i in range(0, len(str2)):

      print('Frequency of', str2[i], 'is :', str.count(str2[i]))

  def main():

    str ='apple mango apple orange orange apple guava mango mango'

    freq(str)                    if \_\_name\_\_=="\_\_main\_\_":

    main()

9. def int2ip(num):

s = []

for i in range(4):

s.append(str(num %256))

num //= 256

return '.'.join(s[::-1])

def ip2int(ip):

res = 0

for j, i in enumerate(ip.split('.')[::-1]):

res += 256\*\*j\*int(i)

return res

10. list1 = []

str1 = ' abcdefghijkelmnopqrstuvwxyz'

length = len(str1)

for i in range(1,length):

c = (str1[i])\*i

list1.append(c)

print(list1)