1. **编写一个城市区号筛选的程序**

citys=['hangzhou','shanghai','dalian']

codes=['0571','021','0411']

z=dict(zip(citys,codes))

city=[]

code=[]

for key in z:

if int(z[key])//100!=0:

city.append(key)

code.append(z[key])

k=dict(zip(city,code))

print('未去除键值对是三位数的旧字典：',z)

print('去除了键值对是三位数的新字典：',k)

2. **编写统计字符出现次数的程序**

str=input('请输入字符串：')

str\_list=list(str)

str\_dict={}

str\_dict[str\_list[0]]=1

for i in range(1,len(str\_list)):

if str\_list[i] in str\_dict.keys():

str\_dict[str\_list[i]]+=1

else:

str\_dict[str\_list[i]]=1

for key,value in str\_dict.items():

print(key,value)

3. **编写一个报名人员信息统计的程序**

data=input('请输入一行人员信息:')

sumAge=0

avgAge=0

sumManNum=0

i=0

while data:

sumAge+=int(data.split(' ')[2])

if data.split(' ')[1]=='男':

sumManNum+=1

i+=1

data=input('请输入一行人员信息:')

avgAge=sumAge/i

print('平均年龄:{:.2f} 男性人数为：{}'.format(avgAge,sumManNum))

4. **编写一个处理全班考试成绩的程序**

name\_list=[]

score\_list=[]

while True:

name=input('请输入学生的姓名：')

score=input('请输入学生的成绩：')

if name=='q':

break

else:

name=str(name)

score=int(score)

name\_list.append(name)

score\_list.append(score)

d=dict(zip(name\_list,score\_list))

score\_sum=sum(d.values())

number=len(d)

print('平均分数%s'%(score\_sum/number))

stu\_max=max(d.values())

max\_name=list(d.keys())[list(d.values()).index(stu\_max)]

print('最高分同学的姓名为：%s,成绩为：%d'%(max\_name,stu\_max))

5.

class Teacher:

def \_\_init\_\_(self,name,age):

self.name=name

self.age=age

def setName(self,name):

self.name=name

def setAge(self,age):

self.age=age

def show(self):

print(self.name,self.age)

class Student(Teacher):

def \_\_init\_\_(self,name,age,major):

Teacher.\_\_init\_\_(self,name,age)

self.major=major

def setMajor(self,major):

self.major=major

def show(self):

print(self.name,self.age,self.major)

t=Teacher('陈一',21)

t.setName('程二')

t.setAge(20)

t.show()

s=Student('陈二',16,'大学生')

s.setName('陈一')

s.setAge(18)

s.setMajor('物联网')

s.show()

6. **编写长方形信息获取的程序**

class Shape:

def \_\_init\_\_(self,color):

self.color=color

def getColor(self):

print(self.color)

def setColor(self,color):

self.color=color

class Rectangle(Shape):

def \_\_init\_\_(self,color,length,width):

Shape.\_\_init\_\_(self,color)

self.length=length

self.width=width

def getPerimeter(self,length,width):

self.length=length

self.width=width

print('长方形的周长：',(length+width)\*2)

def getArea(self,length,width):

self.length=length

self.width=width

print('长方形的面积：',length\*width)

s=Shape('绿色')

s.getColor()

s.setColor('蓝色')

s.getColor()

r=Rectangle('红色',2,3)

r.getPerimeter(5,6)

r.getArea(4,5)

7. **编程计算一元二次方程的解**

import math

a,b,c=eval(input('请输入三个数，中间用逗号分隔：'))

delta=b\*b-4\*a\*c

if delta<0:

print('不存在实数根:')

elif delta==0:

x=-b/(2\*a)

print('有两个相同的实数根: ','x1=x2=',x)

else:

discRoot=math.sqrt(delta)

x1=(-b+discRoot)/(2\*a)

x2=(-b-discRoot)/(2\*a)

print('有两个不同的实数根：','x1=',x1,'x2=',x2)

8.

s,s1,s2,s3=0,0,0,0

for i in range(1,201):

s1=s1+i

for i in range(1,51):

s2=s2+i\*i

for i in range(1,21):

s2=s2+1/i

s=s1+s2+s3

print( ‘{0 :d},{1: d},{2:f},{3: f}’.format(s1,s2, s3, s))