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**题2\_3**

**#编写程序，生成1000个0~1000之间的随机整数**

**#并统计每个元素的出现次数**

**import random**

**aList = [random.randint(0,100) for i in range(1000)]**

**aSet = set(aList)**

**for j in aSet:**

**print(j,':',aList.count(j))**

**题2\_5**

**#sample input:1,2,3,4,5 回车 1 回车 3**

**#sample output:1,2,3**

**aStr = input('请输入一个列表(以，间隔)')**

**aStr = aStr.split(",")**

**aList = [int(aStr[i]) for i in range(len(aStr))]**

**begin = int(input('请输入起始下标'))**

**end = int(input('请输入结束下标'))**

**print(aList[begin:end+1])**

**题2\_10**

**#编写程序，生成包含20个各不相同的随机数的列表，**

**#然后将前10个元素按升序排列，后10个元素按降序排列。输出结果**

**import random**

**aList = [random.randint(0,100) for i in range(20)]**

**print(aList)**

**front = sorted(aList[0:10])**

**print(front)**

**back = sorted(aList[10:20],reverse = True)**

**print(back)**

**#print(front.extend(back)) output None consider WHY???**

**front.extend(back)**

**print(front)**

**题3\_6**

**#Q 编写程序,因式分解从键盘输入的整数**

**#Sample intput: 48**

**#Sample output: 48=2\*2\*2\*2\*3**

**import math**

**x = int(input('Please input an integer:'))**

**i=2**

**result = []**

**t = x;**

**while i<math.sqrt(x):**

**if t==1:**

**break**

**if t%i==0:**

**result.append(i)**

**t = t/i**

**else: i+=1**

**print (x,'=','\*'.join(map(str,result)))**

**题3\_8**

**#编写程序，输出所有由1、2、3、4这四个数字组成的素数，**

**#并且每个在素数中每个数字只用一次**

**import math**

**a = {1,2,3,4}**

**aSet = set()**

**for i in a:**

**ii = i\*1000**

**for j in a - {i}:**

**jj = j\*100**

**for k in a-{i,j}:**

**kk = k\*10**

**for l in a-{i,j,k}:**

**aSet.add(ii+jj+kk+l)**

**print(aSet)**

**aList = list(aSet)**

**#aSet在迭代过程中不允许修改**

**for i in range(len(aList)-1,-1,-1):**

**n = aList[i]**

**t = math.sqrt(n)**

**j = 2**

**while j<t:**

**if(n%j == 0):**

**del aList[i]**

**break**

**j +=1**

**print(aList)**

**所有代码均已上传**

[**https://github.com/inspurer/PythonLearning**](https://github.com/inspurer/PythonLearning)