

# Python语言基础与应用

上机练习：体验 Python 程序

陈斌 北京大学 [gischen@pku.edu.cn](mailto:gischen@pku.edu.cn)



# 输入代码并运行成功

- › 注意对齐和缩进
- › 注意字母大小写、空格
- › 注意左右括号的配对

```
1 # 输入某年某月某日, 判断这一天是这一年的第几天?
2 import datetime
3
4 dtstr = input('Enter the datetime: (20170228):')
5 dt = datetime.datetime.strptime(dtstr, "%Y%m%d")
6 another_dtstr = dtstr[:4] + '0101'
7 another_dt = datetime.datetime.strptime(another_dtstr, "%Y%m%d")
8 print(int((dt - another_dt).days) + 1)
9
```



# 输入代码并运行成功

```
1  #输入一行字符，分别统计出其中英文字母、空格、数字和其它字符的个数。
2  import string
3
4  s = input('input a string:')
5  letter = 0
6  space = 0
7  digit = 0
8  other = 0
9  for c in s:
10     if c.isalpha():
11         letter+=1
12     elif c.isspace():
13         space+=1
14     elif c.isdigit():
15         digit+=1
16     else:
17         other+=1
18 print('There are %d letters,%d spaces,%d digits \
19 and %d other characters in your string.\
20       %(letter,space,digit,other))
21
```

# 输入代码并运行成功

```
1  # merge sort
2  # 归并排序
3  import random
4
5
6  def merge_sort(data_list):
7      if len(data_list) <= 1:
8          return data_list
9      middle = int(len(data_list) / 2)
10     left = merge_sort(data_list[:middle])
11     right = merge_sort(data_list[middle:])
12     merged = []
13     while left and right:
14         merged.append(left.pop(0) if left[0] <= right[0] else right.pop(0))
15     merged.extend(right if right else left)
16     return merged
17
18
19 data_list = [random.randint(1, 100) for _ in range(50)]
20 print(merge_sort(data_list))
```

# 输入代码并运行成功

```
1 # 猜数字游戏
2 import random
3
4 secret = random.randint(1, 100)
5 print('''猜数游戏!
6 我想了一个1-100的整数, 你最多可以猜6次,
7 看看能猜出来吗? ''')
8 tries = 1
9 while tries <= 6:
10     guess = int(input("1-100的整数, 第%d次猜, 请输入: " % (tries,)))
11     if guess == secret:
12         print("恭喜答对了! 你只猜了%d次! \n就是这个: %d! " % (tries, secret))
13         break
14     elif guess > secret:
15         print("不好意思, 你的数大了一点儿! ")
16     else:
17         print("不好意思, 你的数小了一点儿! ")
18     tries += 1
19 else:
20     print("哎呀! 怎么也没猜中! 再见! ")
```