## 2700 Parity

### 一、题目

#### 问题描述

A bit string has odd parity if the number of 1’s is odd. A bit string has even parity if the number of 1’s is even.Zero is considered to be an even number, so a bit string with no 1’s has even parity. Note that the number of 0’s does not affect the parity of a bit string.

#### 输入数据

The input consists of one or more strings, each on a line by itself, followed by a line containing only “#” that signals the end of the input. Each string contains 1–31 bits followed by either a lowercase letter ‘e’ or a lowercase letter ‘o’.

#### 输出数据

Each line of output must look just like the corresponding line of input, except that the letter at the end is replaced by the correct bit so that the entire bit string has even parity (if the letter was ‘e’) or odd parity (if the letter was ‘o’).

101e  
010010o  
1e  
000e  
110100101o  
#

#### 输出样例

1010  
0100101  
11  
0000  
1101001010

#### 题目来源

HDU 2700http://acm.hdu.edu.cn/showproblem.php?pid=2700

### 二、题解

#### 解题思路

位串的定义是：仅由1和0的字符串。

在最后一个字符前算出每一位的和sum

最后一位判断sum的奇偶性 e表示判断sum是偶数 o表示判断sum是奇数

若判断成立则输出1 反之输出0

#### 参考程序

#include <stdio.h>  
#include <string.h>  
char a[100];  
int main()  
{  
 int i,l,sum;  
 while(scanf("%s",a)&&a[0]!='#')  
 {  
 sum=0;  
 l=strlen(a);  
 for(i=0;i<l-1;i++)  
 {  
 sum+=a[i]-'0';//用int计算总和  
 printf("%c",a[i]);//先打印出除最后一位之前所有位  
 }  
 if((sum%2==0&&a[l-1]=='e')||(sum%2==1&&a[l-1]=='o'))  
 {printf("0\n");}  
 else  
 {printf("1\n");}  
 }  
 return 0;

#### 复杂度分析

无

#### 编程技巧

无