**字符权重**

#include <stdio.h>

#include <stdlib.h>

// 定义一个包含标签和匿名联合体的结构体

typedef struct

{

char id;//判断union存的是int还是char

char c[100]; // 字符串成员

union

{

int i; // 整数成员

int weight; //字符的权重

};

} Data;

int countStringWeight(char word[])

{

int result = 0;

for (int i = 0; word[i] != '\0'; i++)

{

// 逐个字符访问，并将ASCII码加总

result += (int)word[i];

}

return result;

}

Data \*read\_data(char word[])

{

// 假设这里是从某处读取数据的实现

Data \*newData = (Data \*)malloc(sizeof(Data));

newData->id = 'c'; //id

strncpy(newData->c, word, sizeof(newData->c)); //write string

newData->weight = countStringWeight(word);// write weight

//这里直接把权重搞定算了，到时候直接权重排序了

return newData;

}

void print\_2ed(Data \*str)

{

int i = 1;

int count = 0;

while (1)

{

if (str[i].weight != str[i - 1].weight)

{

count++;

}

if (count == 1)

{

printf("%s ", str[i].c); // print string

}

if (count >= 2)

{

printf("\n%d ",str[i-1].weight);//print weight

break;

}

i++;

}

}

// 比较函数，按照 weight 字段从大到小排序

int compare(const void \*a, const void \*b)

{

return ((Data \*)b)->weight - ((Data \*)a)->weight;

}

int main()

{

int count;//字符串个数

int i = 0;

char input[100];//读取的字符串

char temp[100];

Data str[100];

scanf("%d",&count);

// 读取int或者char

while(i < count)

{

if (scanf("%d", &str[i].i) == 1)//int的处理

{

str[i].id = 'i';//写入id

str[i].weight = abs(str[i].i);//写入weight

sprintf(input, "%d", str[i].i);//将读入转化成string存入input

//大于0的时候填上加号赋值到c中

if(str[i].i >= 0)

{

strcpy(temp,"+");

strcat(temp, input);

strncpy(str[i].c, temp, sizeof(str[i].c));//填上加号之后的字符串赋值

}

//小于0的时候直接赋值赋值到c中

else

{

strncpy(str[i].c, input, sizeof(str[i].c));//负数就直接赋值了

}

}

else //string的处理

{

scanf("%s", &input);

str[i] = \*read\_data(input);//直接丢到另外一个方法中自己处理

}

i++;

}

qsort(str, count, sizeof(Data), compare);//根据weight排序，从大到小排序

print\_2ed(str);

return 0;

}

|  |  |
| --- | --- |
| Input | Output |
| 5  Hello -701 Hola 500 ABC | Hello +500  500 |
| 7  lots of people are lost in 100 | lots lost  450 |
| 5  A +100 A -100 A | A A A  6 |