

1.

```

● sunkai@sunkaideMacBook-Pro T % cd "/var/fo
tempCodeRunnerFile && "/var/folders/bm/zg
average score of english is:59.500000
fail students:
101 34 56 88 80 78 avr score is67.200000
excellent students No.:103

```

```

1  #include<stdio.h>
2  double avrc(int*a,int n);//行平均n: 几个科目
3  int fail(int*a,int n);//挂科
4  void iffail(int** a,int n,int m);
5  void printsc(int*a,int n);//输出
6  double avrr(int** a,int n,int m);//列平均m: 有几个人n: 哪个科目
7  void exc(int** a,int n,int m);
8  int main(){
9      int n=5,m=4;
10     int a[4][5]={34,56,88,80,78},{27,88,99,67,80},{99,90,87,86,89},{78,89,99,56,70}};
11     int*p[4]={a[0],a[1],a[2],a[3]};
12     printf("average score of english is:%lf\n",avrr(p,1,m));
13     iffail(p,n,m);
14     exc(p,n,m);
15 }
16 void exc(int** a,int n,int m){
17     printf("excellent students No.");
18     for(int i=0;i<m;i++){
19         if(avrc(*(a+i),n)>90)
20             printf("10%d ",i+1);
21         else{
22             int cnt=0;
23             for(int j=0;j<n;j++){
24                 if(j<85)
25                     cnt++;
26                 if(cnt==0)
27                     printf("10%d ",i+1);
28             }
29             printf("\n");
30         }
31     }
32 }
33 double avrc(int*a,int n){
34     double cnt=0;
35     for(int i=0;i<n;i++){
36         cnt+=*(a+i);
37     }
38     return cnt/(double)n;
39 }
40 int fail(int*a,int n){
41     int cnt=0;
42     for(int i=0;i<n;i++){
43         if(*(a+i)<60)
44             cnt++;
45     }
46     if(cnt>=2)
47         return 1;
48     else
49         return 0;
50 }
51 void printsc(int*a,int n){
52     for(int i=0;i<n;i++){
53         printf("%d ",*(a+i));
54     }
55 }
56 double avrr(int** a,int n,int m){
57     double cnt=0;
58     for(int i=0;i<m;i++){
59         cnt+=*(a+i)*n-1;
60     }
61     return cnt/m;
62 }
63 void iffail(int** a,int n,int m){
64     printf("fail students:\n");
65     for(int i=0;i<m;i++){
66         if(fail(*(a+i),n)==1){
67             printf("10%d ",i+1);
68             printsc(*(a+i),n);
69             printf("avr score is%lf\n",avrc(*(a+i),n));
70         }
71     }
72 }

```

2.

```
1  #include<stdio.h>
2  int fsc(char**c);
3  int main(){
4      char a[30][99];
5      char*p[30];
6      for(int i=0;i<30;i++){
7          p[i]=a[i];
8      }
9      int n=fsc(p);
10     for(int i=n-1;i>=0;i--)
11         printf("%s ",a[i]);
12 }
13 int fsc(char**c){
14     int cnt=0,flag=0;
15     while(1){
16         char a=getchar();
17         if(a=='\n'){
18             (*(c+cnt)+flag)='\0';
19             return cnt+1;
20         }
21         if(a==' '){
22             (*(c+cnt)+flag)='\0';
23             cnt++;
24             flag=0;
25         }
26         else{
27             (*(c+cnt)+flag)=a;
28             flag++;
29         }
30     }
31 }
```

● sunkai@sunkaideMacE
n/T/" && gcc tempCc
yp0d5rv5tkc4bm2prss
see you later
later you see 🐼

3.把问题扩展到一般：3.有n个字符串，以空格间隔，首先将它们按照字符串中的字符个数由小到大排列，再分别取出每个字符串的第三个字母合并成一个新的字符串输出（若少于三个字符的输出空格）。只截取部分函数（跟题目要求有关的部分）

```

1  #include<stdio.h>
2  int fsc(char**c,int *l);//读取字符串，顺便计算长度
3  int length(char*a);//字符串长度
4  void copystr(char*a,char*b);//字符串复制
5  void swapstr(char*a,char*b);//字符串交换
6  void swap(int *a,int *b);//数字交换
7  void sort(char**a,int*l,int n);//排序
8  void cmp(char**c,char*b,int*l,int n);//创造新的字符串
9  int main(){
10     char a[30][99],make[99];
11     int length[30];//各个字符串长度
12     char*p[30];
13     for(int i=0;i<30;i++){
14         p[i]=a[i];
15     }
16     int n=fsc(p,length);
17     sort(p,length,n);
18     for(int i=0;i<n;i++){
19         printf("%s\n",a[i]);
20     }
21     cmp(p,make,length,n);
22     printf("%s\n",make);
23 }
24 > void copystr(char*a,char*b){...}
25 > void sort(char**a,int*l,int n){...}
26 > int length(char*a){...}
27 > void swap(int *a,int *b){...}
28 > void swapstr(char*a,char*b){...}
29 > void cmp(char**c,char*b,int*l,int n){...}
30 > int fsc(char**c,int*l){...}
31 }
32
33 void sort(char**a,int*l,int n){...}
34     for(int i=0;i<n-1;i++){
35         for(int j=0;j<n-1-i;j++){
36             if(*(l+j)>*(l+j+1)){
37                 swap(l+j,l+j+1);
38                 swapstr(*(a+j),*(a+j+1));
39             }
40         }
41     }
42 }
43
44 void swapstr(char*a,char*b){...}
45
46 void cmp(char**c,char*b,int*l,int n){...}
47     for(int i=0;i<n;i++){
48         if(*(l+i)<3)
49             *(b+i)=' ';
50         else
51             *(b+i)=*(*(c+i)+2);
52     }
53     *(b+n)='\n';
54 }

```

```

● sunkai@sunkaideMacBook-Pro T % cd "/var/folde
  rss80000gn/T/"tempCodeRunnerFile
  I don't know how to solve this problem yet.
  I
  to
  how
  know
  this
  yet.
  don't
  solve
  problem
  waitnlo

```

4.

```
1  #include<stdio.h>
2  void read(double**p);
3  double avrr(double*p);
4  double avra(double**p);
5  double maxa(double**p);
6  int main(){
7      double a[3][5];
8      double*p[3]={a[0],a[1],a[2]};
9      printf("enter 3 groups of 5 numbers,seperated with 'enter'\n:");
10     read(p);
11     printf("avrs are:%.2lf %.2lf %.2lf\n",avrr(a[0]),avrr(a[1]),avrr(a[2]));
12     printf("avrs of all is :%.2lf\n",avra(p));
13     printf("max of all is :%.2lf\n",maxa(p));
14 }
15 void read(double**p){
16     for(int i=0;i<3;i++)
17         for(int j=0;j<5;j++)
18             scanf("%lf",*(p+i)+j);
19 }
20 double avrr(double*p){
21     double cnt=0;
22     for(int j=0;j<5;j++)
23         cnt+=*(p+j);
24     return cnt/5;
25 }
26 double avra(double**p){
27     double cnt=0;
28     for(int i=0;i<3;i++)
29         cnt+=avrr(*(p+i));
30     return cnt/3;
31 }
32 double maxa(double**p){
33     double max=0;
34     for(int i=0;i<3;i++)
35         for(int j=0;j<5;j++)
36             if(*(p+i)+j>max)
37                 max=*(p+i)+j);
38     return max;
39 }
```

● sunkai@sunkaideMacBook-Pro
rss80000gn/T/"tempCodeRunn
enter 3 groups of 5 number
:3.4 5.5 6.4 2.3 4.6
5.8 5.4 3.5 3.6 3.8
3.5 2.7 5.1 5.4 5.5
avrs are:4.44 4.42 4.44
avrs of all is :4.43
max of all is :6.40

