```
/*****************主教材各章例题SAS程序************/
/**************第九章****************/

/****例9-1，四格表卡方检验****/
data a9_1;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
cards;
75 302
99 202
;
proc freq;
  weight f;
  tables r*c/chisq;
run;

/****例9-2，校正四格表卡方检验****/
data a9_2;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
 end;
 cards;
4 102
5 194
;
proc freq;
  weight f;
  tables r*c/chisq;
run;

/****例9-3，多个构成比比较****/
data a9_3;
  do r=1 to 2;
   do c=1 to 3;
    input f @@;
    output;
   end;
  end;
  cards;
157 212 186
216 348 255
;
proc freq;
  weight f;
  tables r*c/chisq;
run;
```

```
/****例9-4，多个率比较****/
data a9_4;
  do r=1 to 3;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
  cards;
7 24
9 22
21 11
;
proc freq;
  weight f;
  tables r*c/chisq;
run;

/****例9-5，配对卡方检验****/
data a9_5;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
  cards;
80 15
30 10
;
proc freq;
  weight f;
  tables r*c/agree;
run;

/****例9-6，校正配对卡方检验****/
data a9_6;
  input a b c d;
   if b+c<40 then chisq=(abs(b-c)-1)**2/(b+c);
   else chisq=abs(b-c)**2/(b+c);
   p=1-probchi(chisq,1);
  cards;
19 18 20 3
;
proc print;
run;

/****例9-7，两总体分布推断****/
data a9_7;
  k=3;
  a11=20;
  a22=32;
```

```
  a33=3;
  n1=24;
  n2=38;
  n3=28;
  m1=37;
  m2=45;
  m3=8;

t=(k-1)/k*((n1-m1)**2/(n1+m1-2*a11)+(n2-m2)**2/(n2+m2-2*a22)+(n3-m3)
**2/(n3+m3-2*a33));
  p=1-probchi(t,4);
proc print;
run;

/****例9-8，独立性检验****/
data a9_8;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
  cards;
202 99
302 75
;
proc freq;
  weight f;
  tables r*c/chisq;
run;

/****例9-9，独立性检验****/
data a9_9;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
  cards;
32 25
20 54
;
proc freq;
  weight f;
  tables r*c/chisq;
run;

/****例9-10，见例9-4****/

/****例9-11，正态分布拟合优度检验****/
data a9_11;
  input x@@;
```

```
  low=28;
  dis=12;
  lowl=x-mod(x-low,dis);
  cards;
65  59  45  64  52  74  43  73  32  72  57  52  68  66  44  61  41  61  69
66  66  39  67  56  68
58  38  85  69  63  56  44  65  66  82  56  89  74  61  76  31  76  43  44
73  65  52  60  57  52
38  51  59  73  82  53  41  56  66  70  48  66  52  59  44  49  58  61  77
76  48  48  57  80  64
66  63  78  44  74  40  42  80  63  60  51  62  77  77  78  61  46  68  66
55  49  65  62  66  51
53  62  58  68  80  56  48  55  61  64  43  64  57  55  59  80  41  36  33
36  49  55  69  59  66
75  51  79  75  63  42  67  65  62  74  56  44  41  58  87  81  75  67  67
57  62  61  64  67  41
43  66  74  81  61  70  69  71  42  55  66  79  69  73  57  81  74  67  49
59  56  28  63  56  47
61  61  59  69  62  60  75  66  52  73  72  58  76  61  56  46  52  63  83
70  38  69  61  76
;
proc means n min max;
proc freq;
  tables lowl;
run;

data a9_11_2;
  input k;
    do i=1 to k;
     input xl f@@;
     output;
    end;
    cards;
5
28 10
40 35
52 68
64 61
76 25
;
run;
data a9_11_3;
  set a9_11_2;
  n=199;
  xu=xl+12;
  mean=60.69;
  std=12.49;
  z1=(xl-mean)/std;
  z2=(xu-mean)/std;
  p1= probnorm(z1);
  p2= probnorm(z2);
  p_d=p2-p1;
  t=n*p_d;
  ch_2=(f-t)**2/t;
```

```
  chisq+ch_2;
  if _n_=k then p=1-probchi(chisq,6);
proc print;
run;


/****例9-12，fisher精确概率法****/
data a9_12;
  do r=1 to 2;
   do c=1 to 2;
    input f @@;
    output;
   end;
  end;
  cards;
2 15
4 10
;
proc freq;
  weight f;
  tables r*c/exact fisher;
run;
```