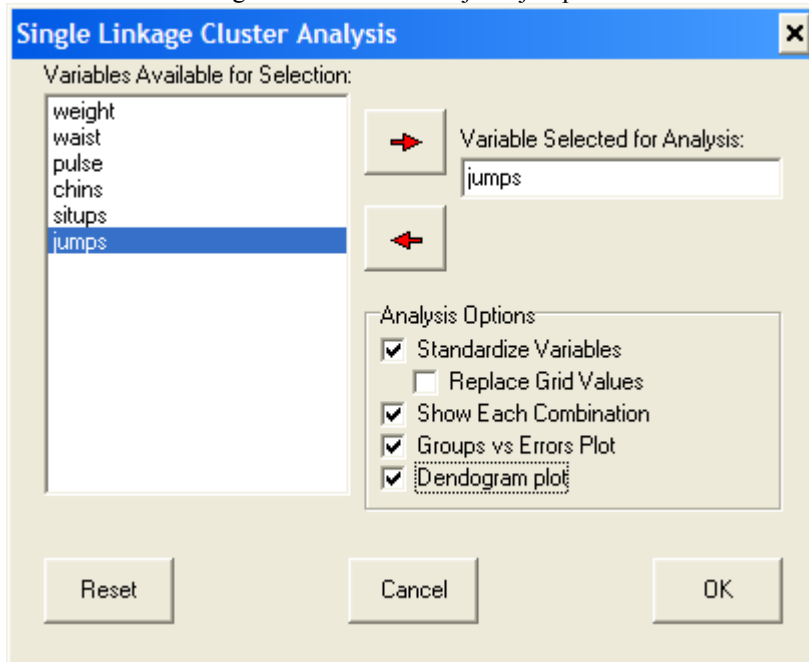


Single Link Clustering

This procedure reads a file of subjects or objects measured on one or more variables. One variable is selected to "link" subjects together into groups. Originally, each subject is a group. Subjects closest together on the measure are combined to form a new group with a score that is the average of the two subjects within the group. This process is repeated until only 1 group remains. You can elect to show each grouping step and the errors of grouping as well as a dendrogram of the groupings.

Shown below is a single link cluster of subject "jumps" as found in the cansas.LAZ file:



The image shows a dialog box titled "Single Linkage Cluster Analysis". It has a blue title bar with a close button. The main area is divided into two sections. The top section, "Variables Available for Selection:", contains a list box with the following items: weight, waist, pulse, chins, situps, and jumps. The "jumps" item is selected and highlighted in blue. To the right of this list is a "Variable Selected for Analysis:" text box containing the word "jumps". There are two red arrows: one pointing from the list box to the text box, and another pointing from the text box back to the list box. Below the text box is a section titled "Analysis Options" containing five checkboxes: "Standardize Variables" (checked), "Replace Grid Values" (unchecked), "Show Each Combination" (checked), "Groups vs Errors Plot" (checked), and "Dendrogram plot" (checked). At the bottom of the dialog are three buttons: "Reset", "Cancel", and "OK".

Figure 1. Single Link Clustering Form

Single Linkage Clustering by Bill Miller

FILE: C:\Documents and Settings\Owner\My
Documents\Projects\CLanguage\data\cansas.TEX

Variable = jumps

Number of cases = 20

Mean = 70.300, Variance = 2629.379, Std.Dev. = 51.277

```
GROUP ID 17 15 4 7 11 9 8 6 20 14 5 2 1 19 18
3 13 12 16 10
```

(Group 2 is combined with Group 1)

```
GROUP ID 17 15 4 7 11 9 8 6 20 14 5 2 19 18 3
13 12 16 10
```

(Group 9 is combined with Group 8)

```
GROUP ID 17 15 4 7 11 9 6 20 14 5 2 19 18 3 13
12 16 10
```

(Group 7 is combined with Group 11)

```
GROUP ID 17 15 4 7 9 6 20 14 5 2 19 18 3 13 12
16 10
```

(Group 9 is combined with Group 3)

GROUP ID 17 15 4 7 9 6 20 14 5 2 19 18 13 12 16 10
 (Group 2 is combined with Group 18)

GROUP ID 17 15 4 7 9 6 20 14 5 2 19 13 12 16 10
 (Group 6 is combined with Group 20)

GROUP ID 17 15 4 7 9 6 14 5 2 19 13 12 16 10
 (Group 7 is combined with Group 9)

GROUP ID 17 15 4 7 6 14 5 2 19 13 12 16 10
 (Group 7 is combined with Group 13)

GROUP ID 17 15 4 7 6 14 5 2 19 12 16 10
 (Group 12 is combined with Group 16)

GROUP ID 17 15 4 7 6 14 5 2 19 12 10
 (Group 7 is combined with Group 6)

GROUP ID 17 15 4 7 14 5 2 19 12 10
 (Group 15 is combined with Group 4)

GROUP ID 17 15 7 14 5 2 19 12 10
 (Group 15 is combined with Group 7)

GROUP ID 17 15 14 5 2 19 12 10
 (Group 2 is combined with Group 19)

GROUP ID 17 15 14 5 2 12 10
 (Group 14 is combined with Group 5)

GROUP ID 17 15 14 2 12 10
 (Group 14 is combined with Group 2)

GROUP ID 17 15 14 12 10
 (Group 15 is combined with Group 12)

GROUP ID 17 15 14 10
 (Group 15 is combined with Group 14)

GROUP ID 17 15 10
 (Group 17 is combined with Group 15)

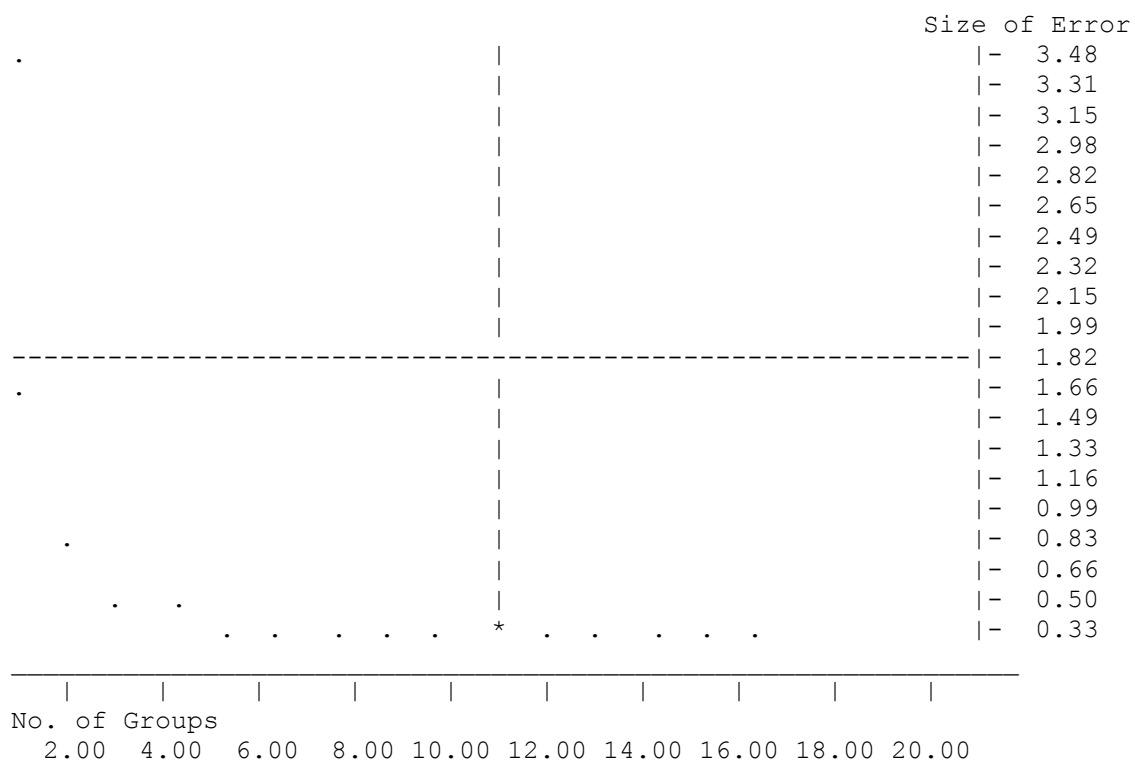
GROUP ID 17 10
 (Group 17 is combined with Group 10)

GROUP ID 17

GROUPING STEP	ERROR
1	0.000
2	0.000
3	0.000
4	0.008
5	0.012
6	0.020
7	0.035

8	0.064
9	0.098
10	0.102
11	0.117
12	0.115
13	0.142
14	0.156
15	0.194
16	0.270
17	0.565
18	1.387
19	3.314

SCATTERPLOT - Plot of Error vs No. of Groups



[illegible]

[illegible]