Lecture 5: Data Transformation and Data in SPSS

Tasks :

Recode into Different Variable:

1. Modify data values of academic ability into 10 categories that ranges from 1-10. [For instance, student who scored in the ranges '0-9' into 1, '10-19' into 2, and so on. The last one will assign the values '90-100' into 10.]

2. Modify the academic ability of students who scored in the ranges "0-39" into fail, '40-49' into "marginal fail", '50-59' into pass, '60-69' into merit" and '70-100' into honor categories.

3. If it is a matter of "pass" or "fail", it can also be recoded into fail for range '0-49' and pass for range '50-100'.

Recode into Same Variable:

4. Decompose the gender variable using **recode** procedure into two groups such as male and female. [Note that by selecting into Same Variable, you will overwrite the original data.]
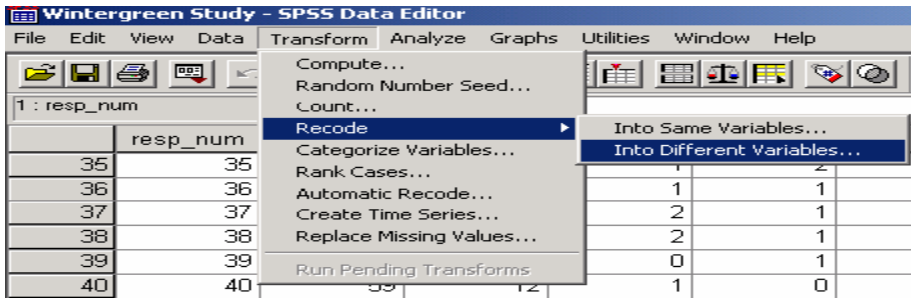
Compute:

5. Compute a new variable by adding 1 to "**aa**" and multiply this with 0.1.

6. Create the natural log of the existing variables.
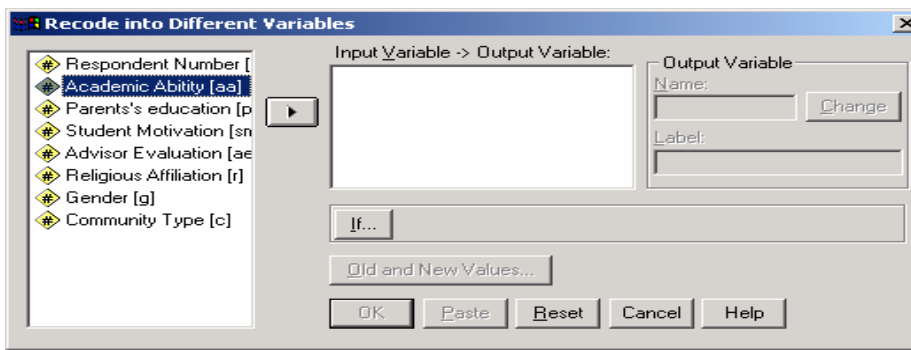
Data:

7. Select the students who come from a rural community.

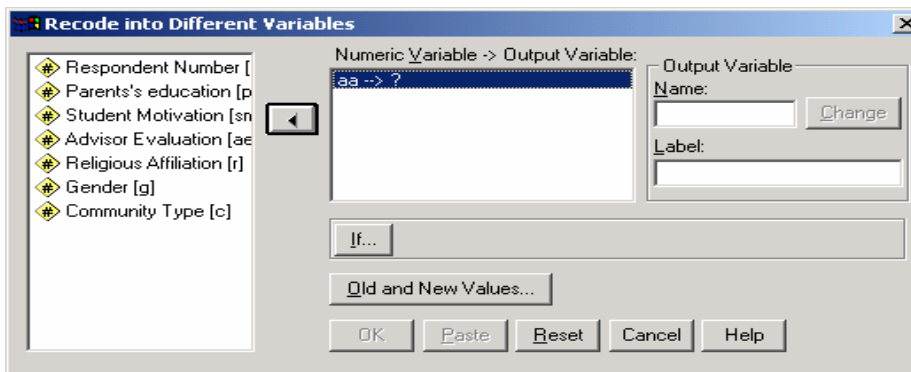8. List the first 10 students' **parent education**.

1

Tips For Task 1

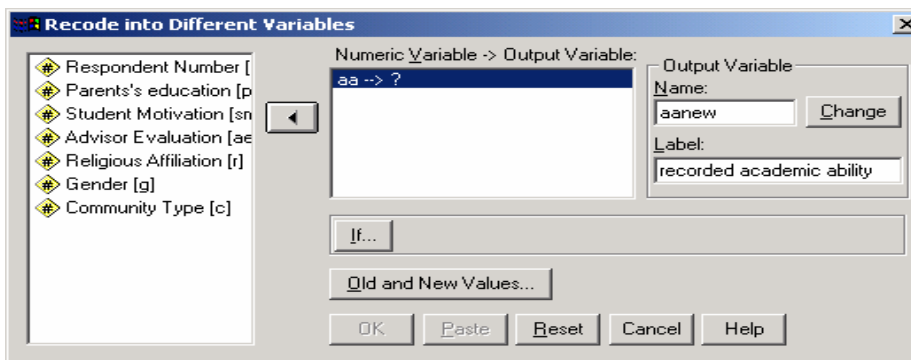*1. This task is accomplished by recoding the data.*

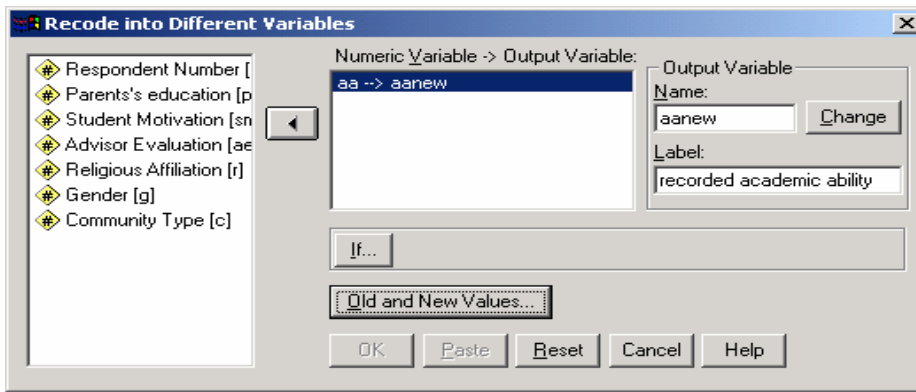**FIG 1**

FIG 2

FIG 3

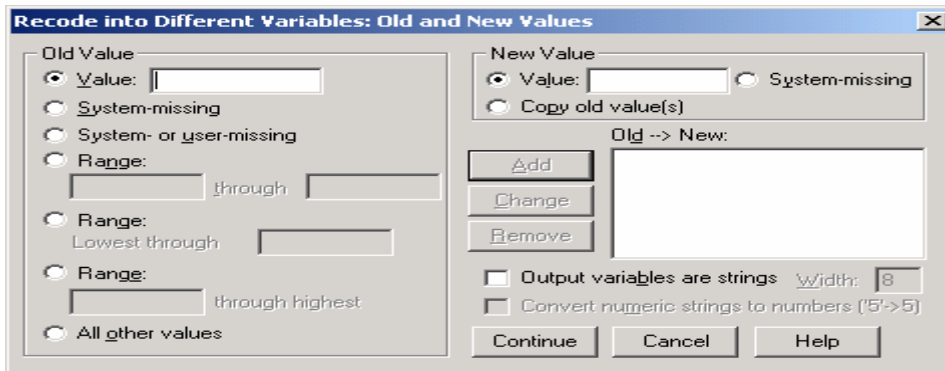**FIG 4**

FIG 5

FIG 6

- *Select old value **Range** and enter "**0**" through "**9**". Then enter "**1**" for the **New Value**, and click the **Add** button.*

- *Return to the **Range** box and enter "**10**" through "**19**" for the range, return to the **New Value box**, enter a "2" for the value, and click the **Add** button. Continue for the remaining groups of ranges (the last one will assign the values "90" through "100" to group number "10") (see Fig 7).*

- *If you make a mistake along the way, you can correct it by using the **Change** and **Remove** buttons.*

- *Once you have completed defining groups, click the **Continue** button.*

- *You will return to the previous dialog box (see Fig 8). If you now click the **OK** button, the new variable will be created and it will be added into the dataset as "**aanew**" (see Fig 9).*
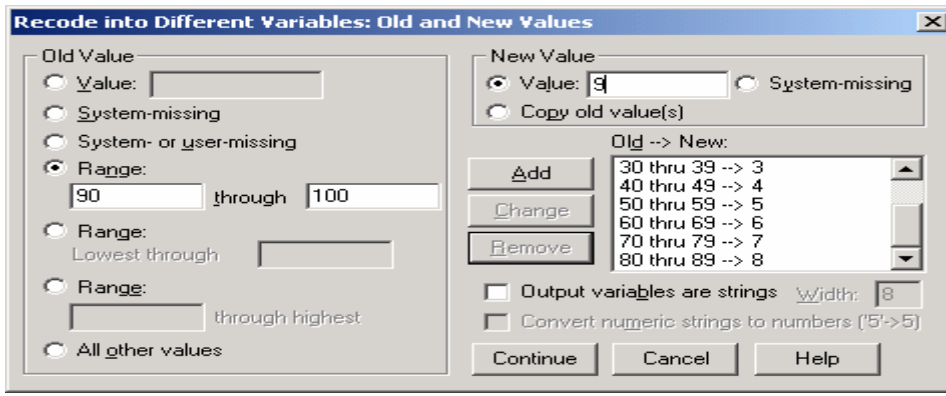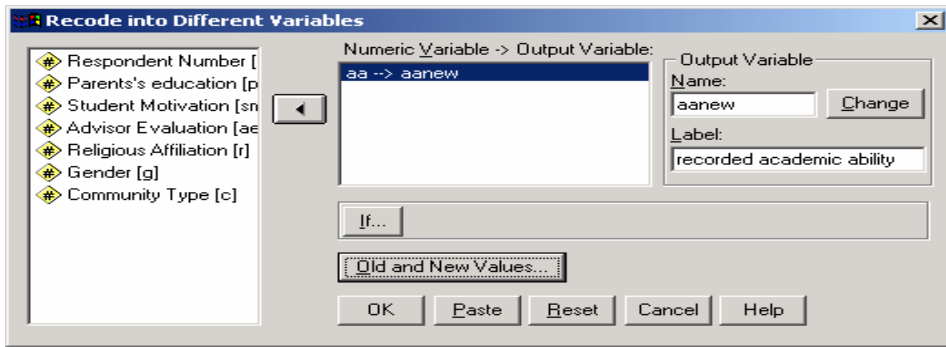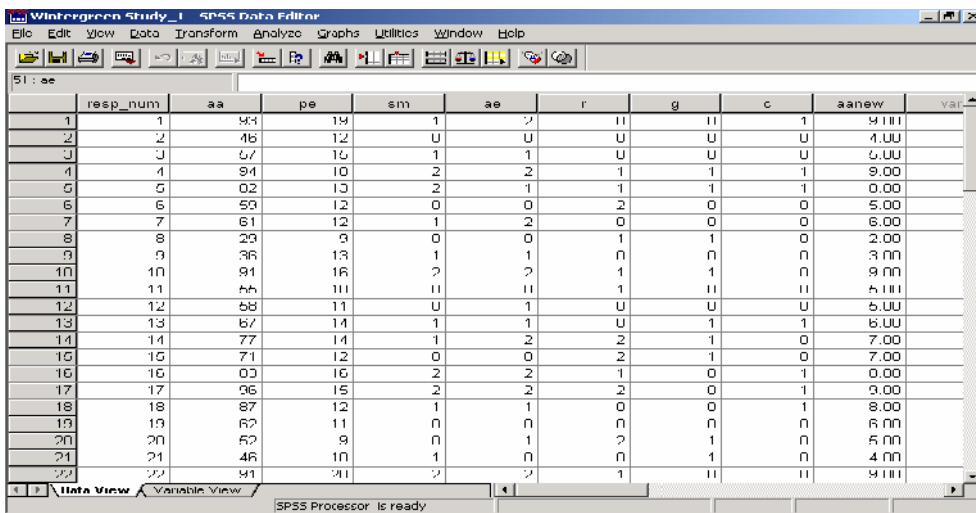
FIG 7

FIG 8

FIG 9

Tips For Task 2

*From **Transform>Record>Into Different Variables**, the range of numbers can be prepared by clicking on the forth radio button and entering the values **0 through 39**, then click on the check box **output variables are strings** and type **fail** into the **new value** box and click on **add** button (before start to apply the new process, you need to remove the previous numbers or interval by using the **remove** button). This procedure should be repeated for the other intervals (i.e. "honor", 70-100) (see fig 10). In this step, you can use variable **aanew** to change it as **aanew1** if you want it to*

be added into the database under a new variable name. In the end, you can return to the previous dialog box (see fig 11). In order to see the final outcome, refer to fig 12.
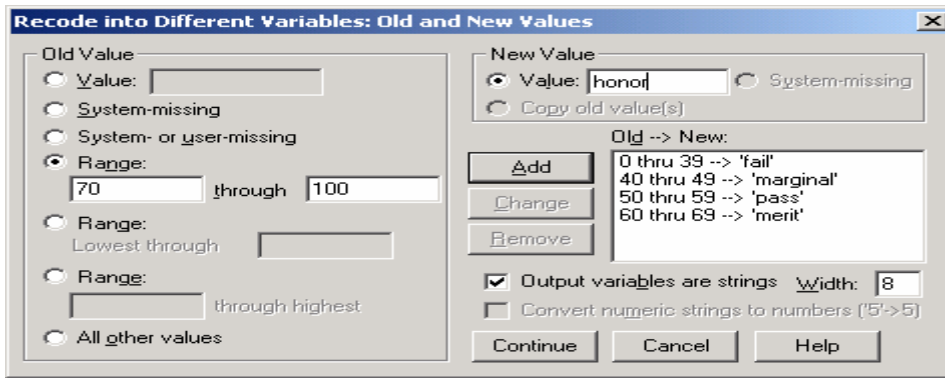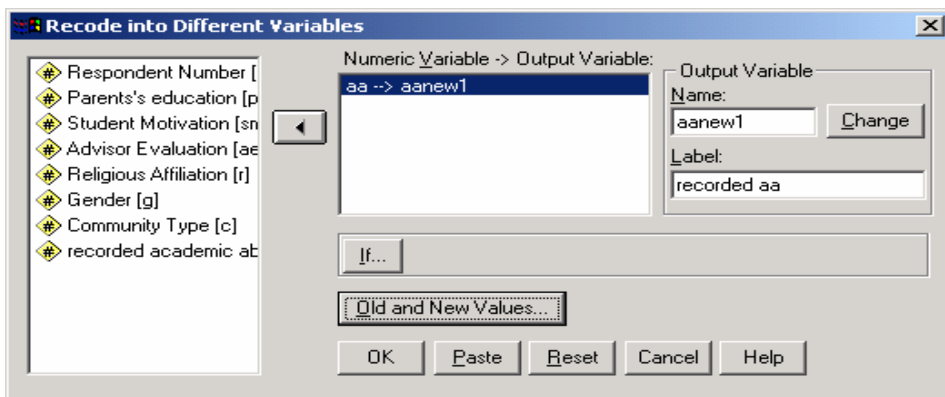

FIG 10

FIG 11

FIG 12

Tips For Task 3

*In the second step the first range of numbers **lowest thru 49** is prepared by clicking on the fifth radio button and entering the value 49 in the box, then click on the check box **output variables are strings** and type **less***

*into the **new value** box and click on **add** button (this time you need to use another variable i.e. aanew2 (see Fig 13).*

The second range of numbers 50 thru highest is prepared in a similar manner after clicking on the sixth radio button, entering the value 50 in the relevant box, and the more in the new value box (see also Fig 13).
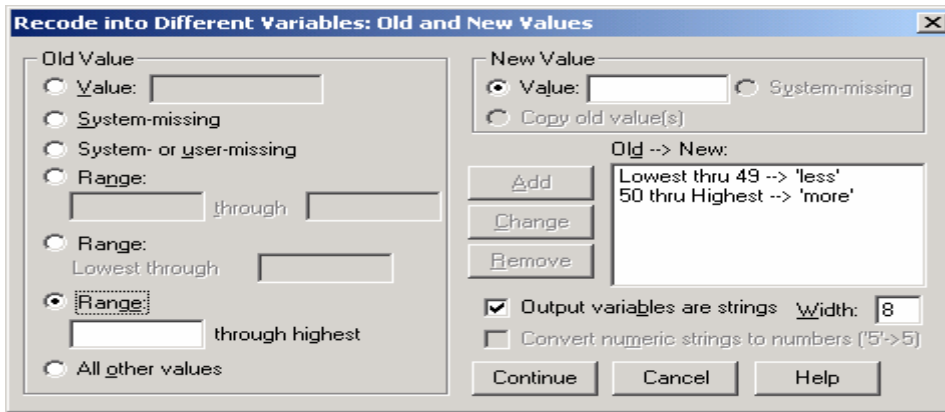

FIG 13

*Now, you will return to the previous dialog box and if you click on the **OK** button, the new variable will be created and added into the data set as **aanew2** (see Fig 14).*


FIG 14

Tips For Task 4

*Create two new variables as **m** (male) and **f** (female) by using **Data > Insert Variable** (see Fig 15). (These variables can be generated conducting by copy and paste from the original gender variable.) Then, decompose the gender variable using **Recode** procedure into two groups such as male and female.*

Now, click on **Transform> Recode** *and select* **Into Same Variables** *(see Fig 16).*
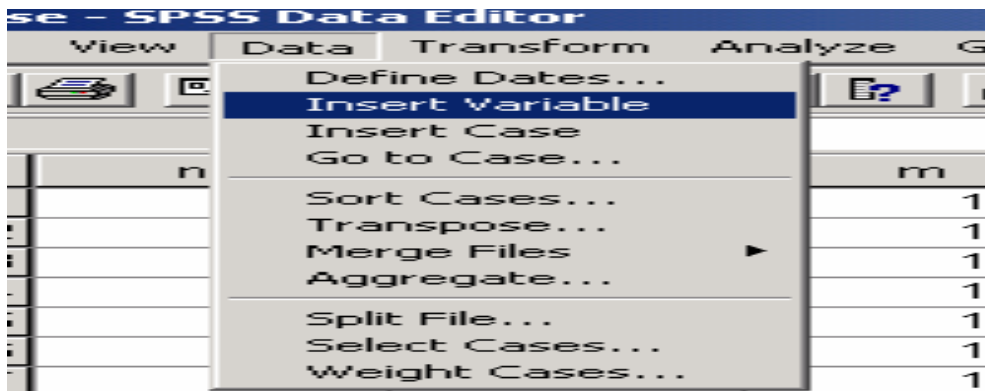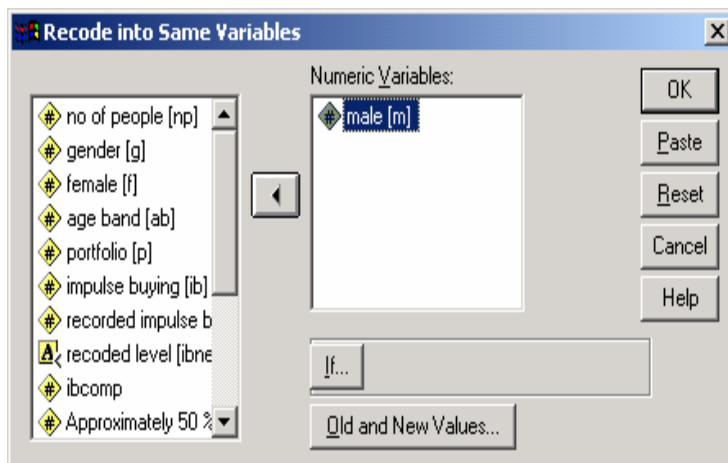

FIG 15
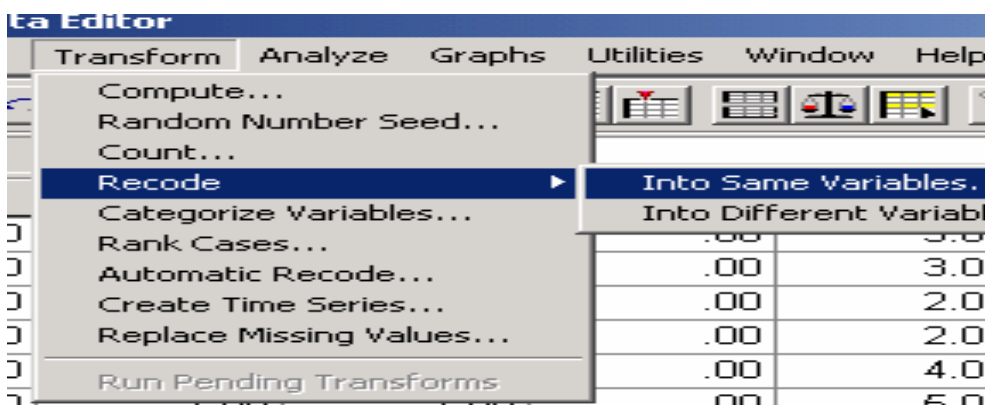
FIG 16

The resulting dialog box, shown in Fig 17, contains a list of your variables on the left. Put the relevant one (i.e. gender) into the right box and then click on old and new values.

FIG 17

Change gender as male and female. For female just change the variable name as female. For male click on the **Old and New Values** *to open* **Recode into Same Variables: Old and New Values** *sub-dialogue box.*

- In the **Old Value** box, type the old value (i.e. 0). In the **New Value** box, type the new value (i.e. 2). Then, Click on the Add Command pushbutton.

- Then, in the **Old Value** box, type the old value (i.e. 1). In the **New Value** box, type the new value (i.e. 0). Then, Click on the Add Command pushbutton.

- Two variables are formed as in figure 18.

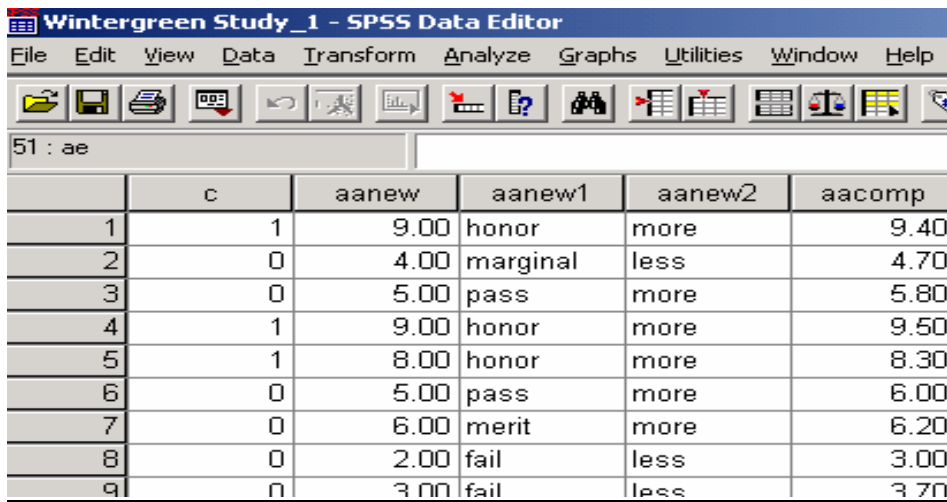| m	f
1.00	.00
1.00	.00
1.00	.00
1.00	.00
1.00	.00
1.00	.00
1.00	.00
.UU	2.UU
1.00	.00
1 nn	nn
1.00	.00
1.00	.00
.00	2.00
1.00	.00	**FIG 18**

Tips for Task 5

From the **Transform** *pull-down menu, select* **Compute.** *To create the new computed variable, enter "aacomp" in the* **Target Variable** *box. Then, in the* **Numeric Expression** *box, enter* **(aa+1)*0.1** *and click the* **OK** *button to compute the new variable (see Fig 15 and 16).*
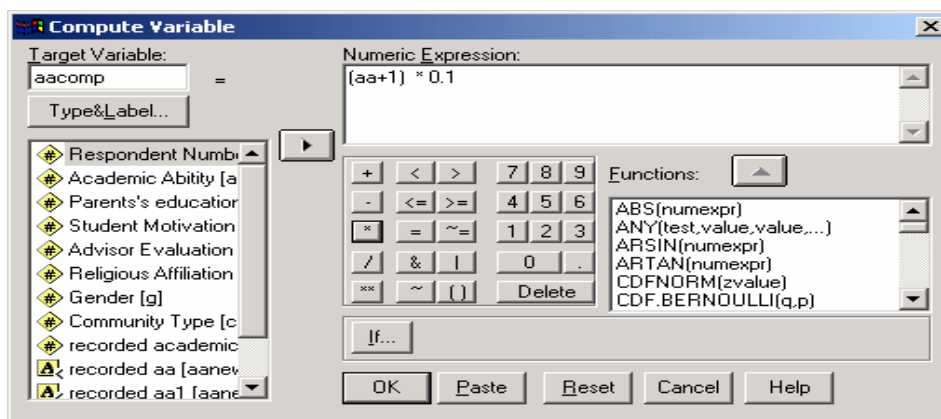
FIG 15

FIG 16

Tips for Task 6

To create the natural log of the existing variables, go to **the transform drop-down menu** *and choose* **compute** *option. Select the relevant function (***LG10***) from the* **function box** *and click function button to get it into the upper screen, and then choose the relevant variable (***academic ability)** *with clicking the nearest button (see fig 17). To get the final product, look at the* **data view** *section. Apply the same process for* **the other variables** *and make sure the log version of the relevant variables exist in data view section.*
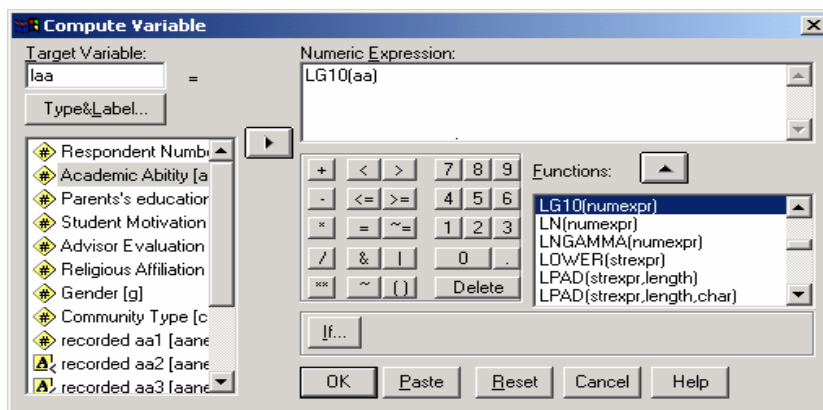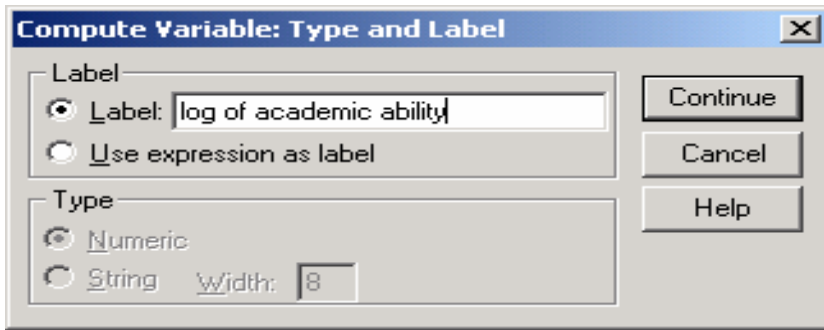

FIG 17

FIG 18

Tips for Task 7

*First, from the **Data** pull-down menu choose **Select** Case (see fig 19). Then select **If condition is satisfied** and click the **If** button (see Fig 20). Click on the variable **"c"** from the list on the left, then type c=1. Then click the **Continue** button, and finally click the **OK** button to select the cases (see Fig 21 and 22). When you select cases, you will notice that in the Data editor window **a slash mark** / appears through the record number of those cases that were not selected. Here you will also notice that a new column labeled **filter _$,** and containing **1 and 0** has appeared. These two values represent the selected and unselected cases, respectively (see Fig 23). If you wish to include all the cases in later analysis, simply return to the **Data** pull-down menu and choose **Select Cases** dialog box and select **All cases.***
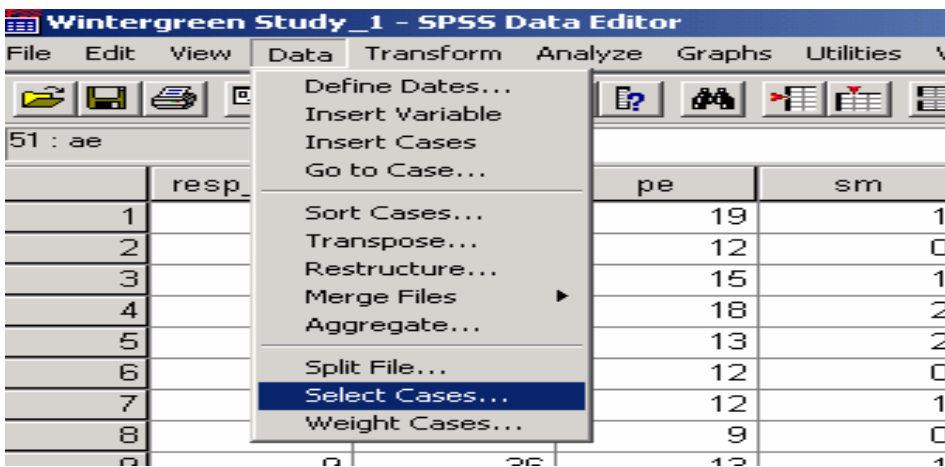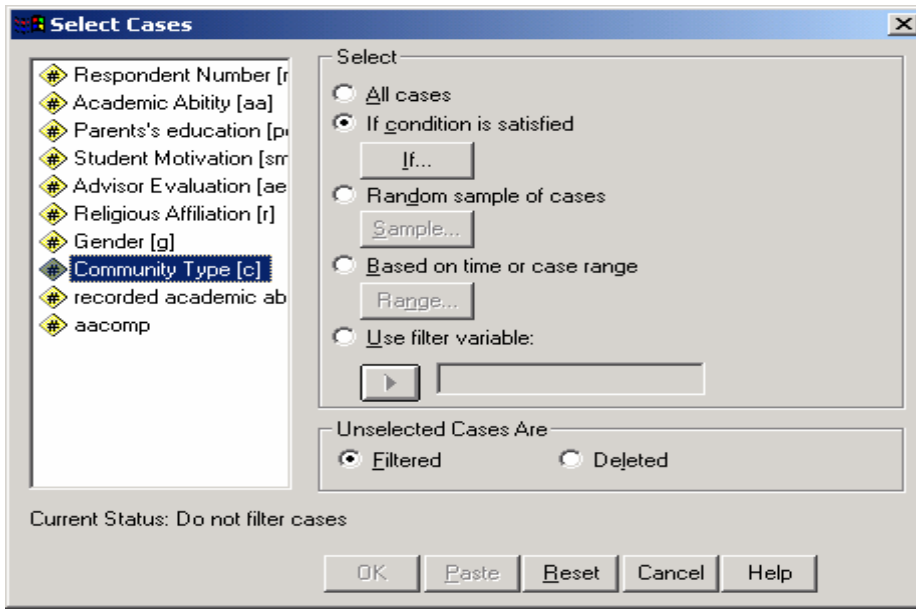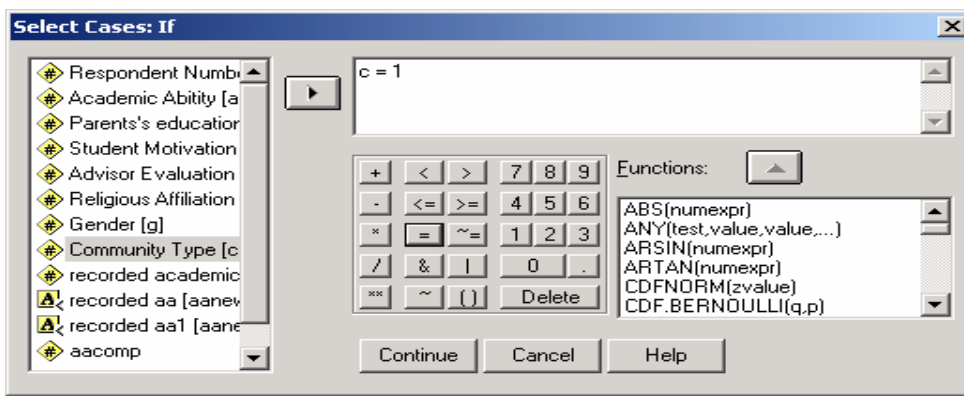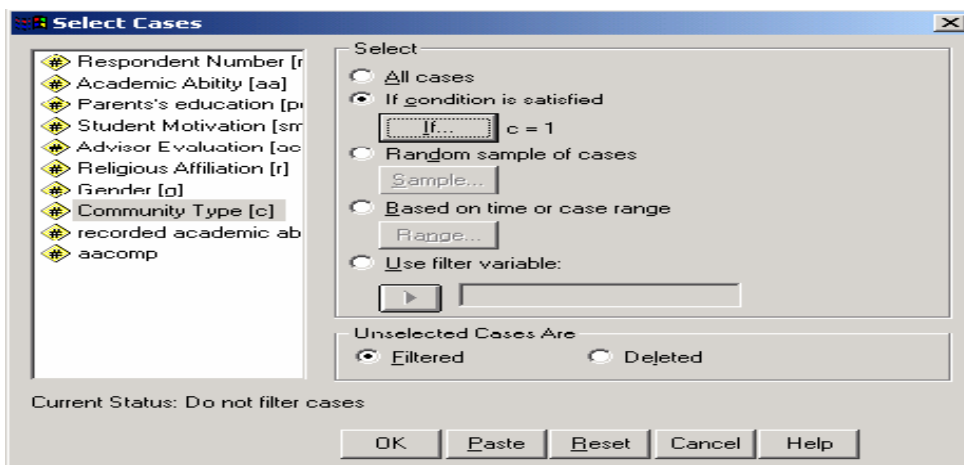

FIG 19

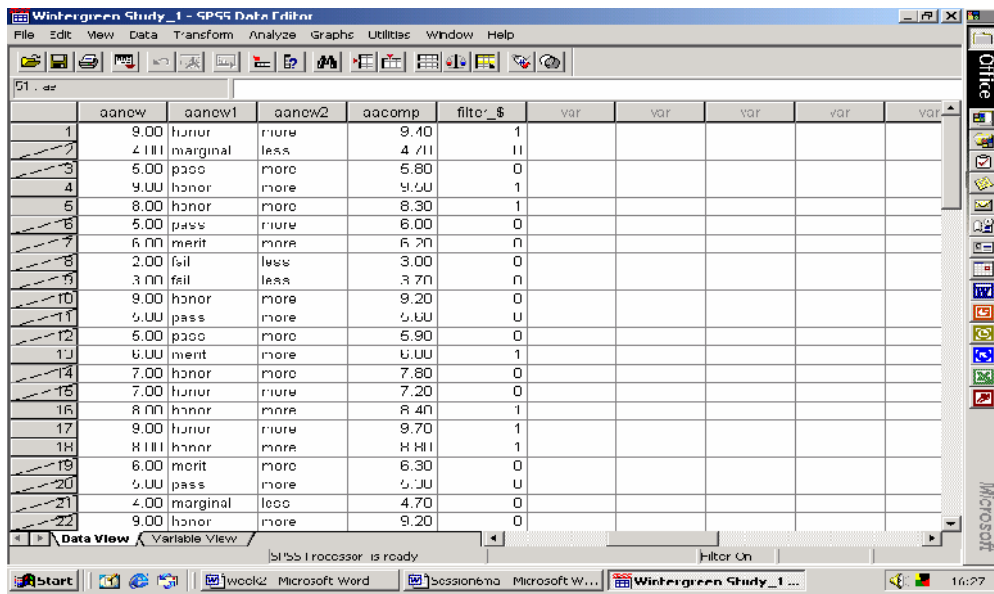**FIG 20**

FIG 21

FIG 22

FIG 23

Tips for Task 8

*From the **Analyze** pull-down menu, select **Reports** and then choose **Case Summaries** (see fig 24). Highlight the **"pe"** variable from the list on the left and click the button with the right-hand arrow. Make sure the **Display cases** option is selected (it will have a check mark in the box next to the option), and in the **Limit cases to first,** enter 10 (see Fig 25). Click the **OK** button to run this procedure and get the final outcome as in Fig 26. If you want to copy and paste the outcome, you can able to do that when summary output window appears (see Fig 27).*

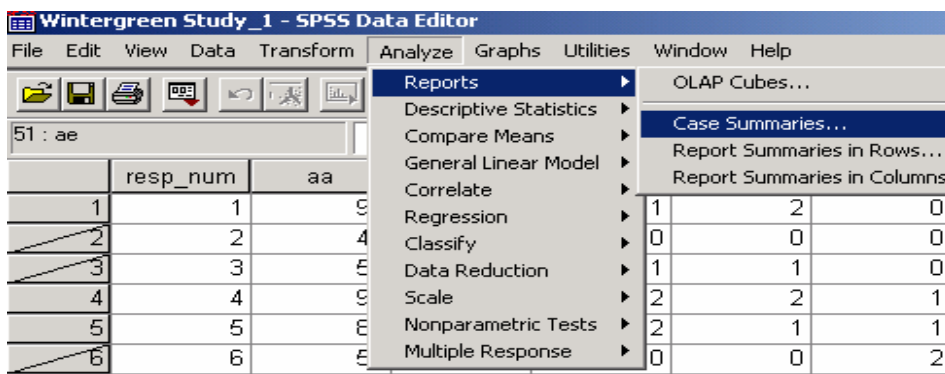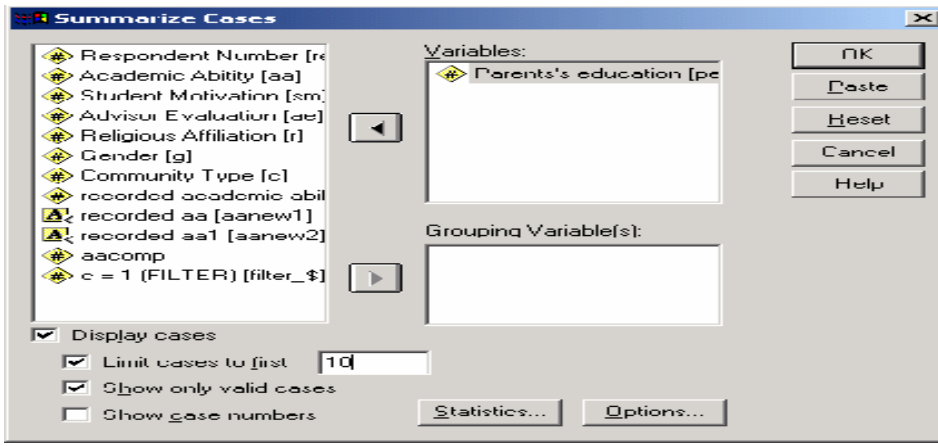*You can also save your output file as in Fig 28.*
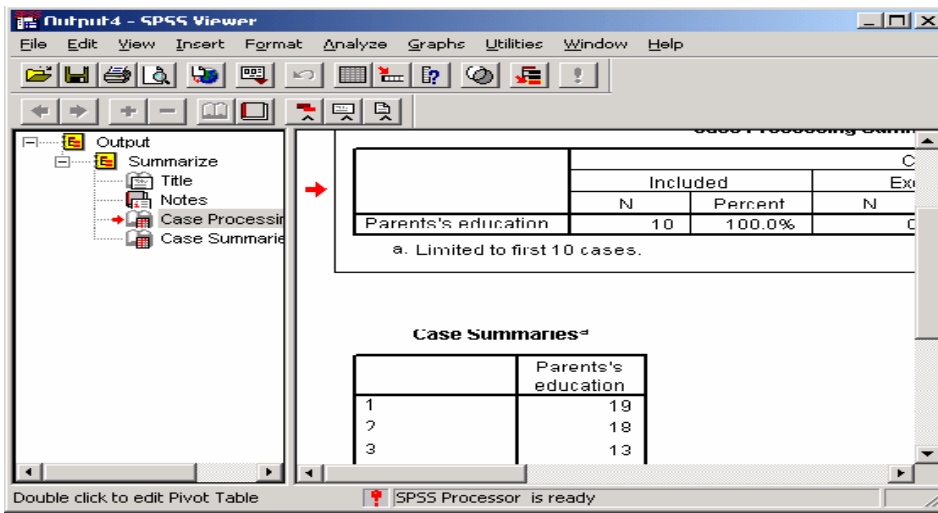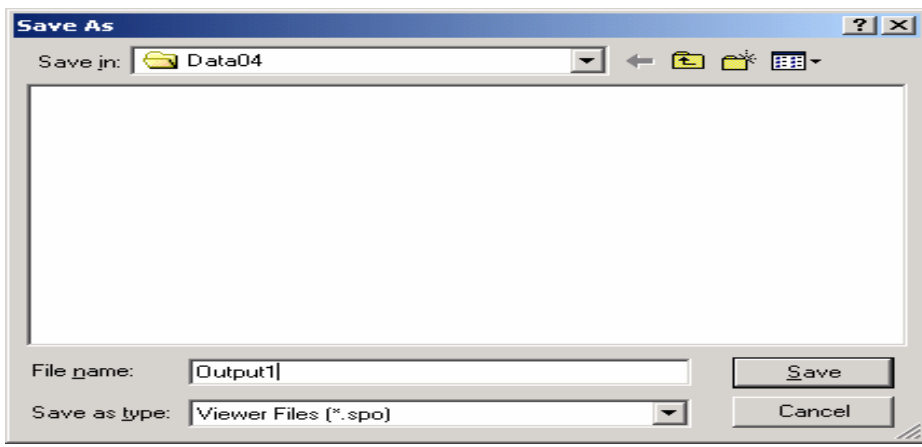

FIG 24

FIG 25

FIG 26

FIG 27

FIG 28

- *If you want to find out **first 15 students' religious affiliation**, you can apply the same procedure. The final outcome as follow: (see fig 29).*

FIG 29