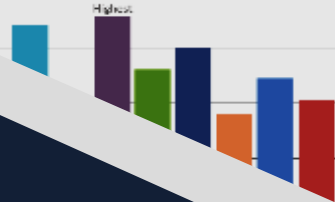


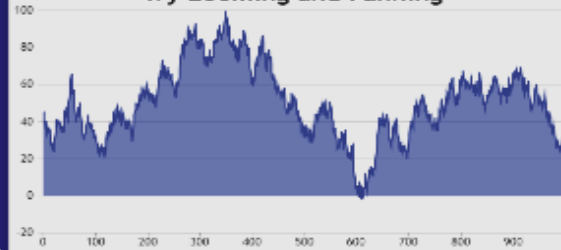


**Hamadan University of
medical sciences**

Simple Column Chart with Index Labels



Try Zooming and Panning



Bitcoin Price - 2017



Chart with Zooming / Pa...

PHP Chart using JSON Data

Exponential Growth of Global Solar PV

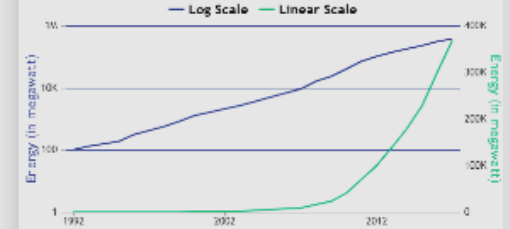


Chart with Logarithmic Axis

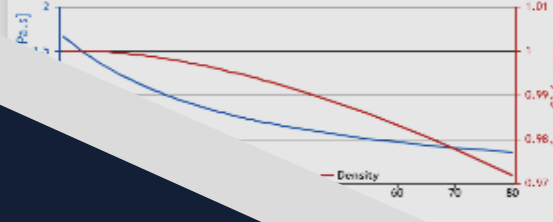
SPSS

(Statistical Package For The Social Sciences)

Presented by
Dr. Behnaz Alafchi

Artificial

Dynamic Viscosity Vs Density over Temperature of
Water



New VS Returning Visitors

Click on Any Segment to Drilldown



Visitors: 41%

فهرست مطالب:

- معرفی محیط نرم افزار
- وارد کردن داده ها در نرم افزار **SPSS**
- آمار توصیفی در **SPSS**
 - ✓ توصیف داده های کیفی:
 - رسم جدول فراوانی
 - رسم نمودار (میله ای، دایره ای)
 - ✓ توصیف داده های کمی:
 - محاسبه شاخص های آماری
 - رسم نمودار (هیستوگرام و Boxplot)
- دستوراتی برای دست کاری داده ها

معرفی محیط نرم افزار

نوار عنوان:

 Data.sav [DataSet0] - IBM SPSS Statistics Data Editor

نوار منو:

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

نوار ابزار:



وارد کردن داده ها در نرم افزار SPSS

صفحه Variable view:

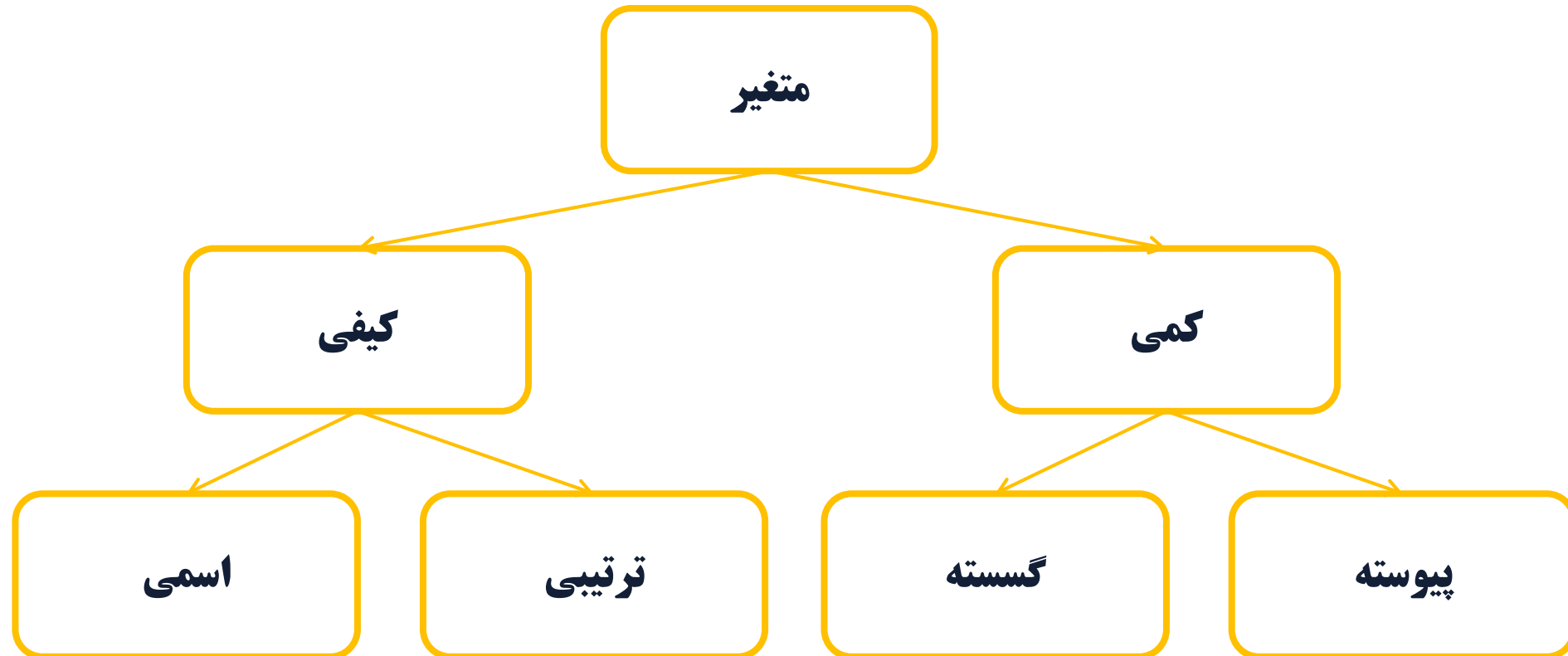
| | Name | Type | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | Role |
|----|------------|---------|-------|----------|-------|---------------|---------|---------|-------|---------|--------|
| 1 | sex | Numeric | 10 | 0 | | {1, male}... | None | 10 | Right | Scale | Input |
| 2 | age | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 3 | smoking | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 4 | heart | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 5 | HTN | Numeric | 10 | 2 | | {1.00, no}... | None | 10 | Right | Nominal | Input |
| 6 | canser | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 7 | tab | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 8 | tanginafas | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 9 | BP | Numeric | 10 | 0 | | {1, no}... | None | 10 | Right | Nominal | Input |
| 10 | SPO2 | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 11 | BS | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 12 | Hb | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 13 | LDH | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 14 | Lym | Numeric | 10 | 0 | | None | None | 10 | Right | Scale | Input |
| 15 | status.ICU | Numeric | 8 | 2 | | {.00, no}... | None | 8 | Right | Nominal | Target |

وارد کردن داده ها در نرم افزار SPSS

صفحه Data view:

| | sex | age | smoking | heart | HTN | canser | tab | tanginafas | BP | SPO2 |
|----|--------|-----|---------|-------|-----|--------|-----|------------|-----|------|
| 1 | female | 18 | no | no | no | no | no | yes | no | 60 |
| 2 | female | 22 | yes | no | no | no | no | no | no | 88 |
| 3 | male | 23 | no | no | no | no | yes | no | yes | 54 |
| 4 | female | 25 | no | no | no | no | no | yes | no | 73 |
| 5 | female | 27 | no | no | no | no | yes | yes | no | 91 |
| 6 | female | 28 | no | no | no | no | yes | yes | no | 83 |
| 7 | female | 29 | no | no | no | no | yes | yes | no | 95 |
| 8 | female | 29 | no | no | no | no | yes | no | no | 94 |
| 9 | female | 29 | no | no | no | no | yes | yes | no | 91 |
| 10 | female | 30 | no | no | no | no | no | yes | no | 87 |
| 11 | male | 30 | no | no | no | no | yes | yes | no | 83 |
| 12 | male | 30 | no | no | no | no | yes | no | no | 85 |
| 13 | female | 31 | no | no | no | no | no | yes | no | 80 |
| 14 | female | 31 | no | no | no | no | yes | yes | no | 70 |
| 15 | female | 31 | no | no | no | no | yes | yes | no | 85 |





آمار توصیفی در SPSS (توصیف داده های کیفی)

جدول فراوانی

sex

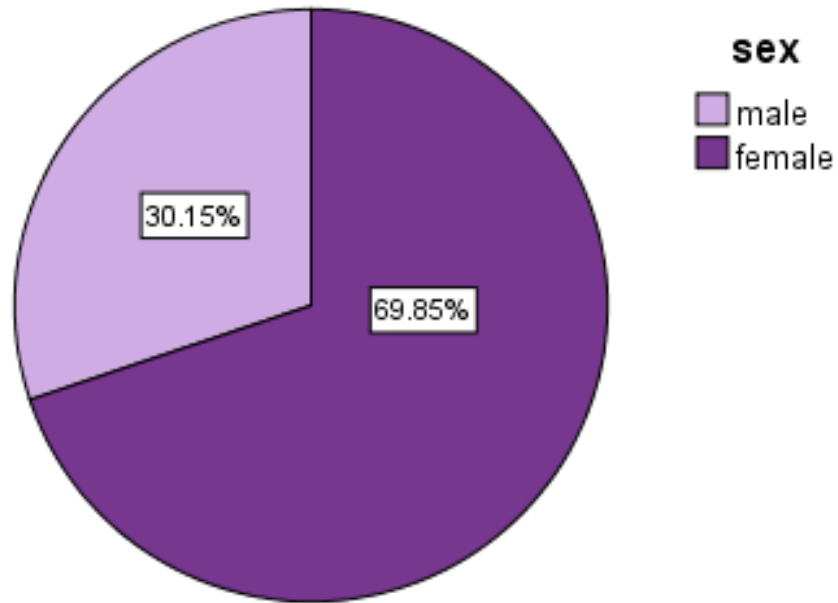
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | male | 553 | 30.2 | 30.2 | 30.2 |
| | female | 1281 | 69.8 | 69.8 | 100.0 |
| | Total | 1834 | 100.0 | 100.0 | |

smoking

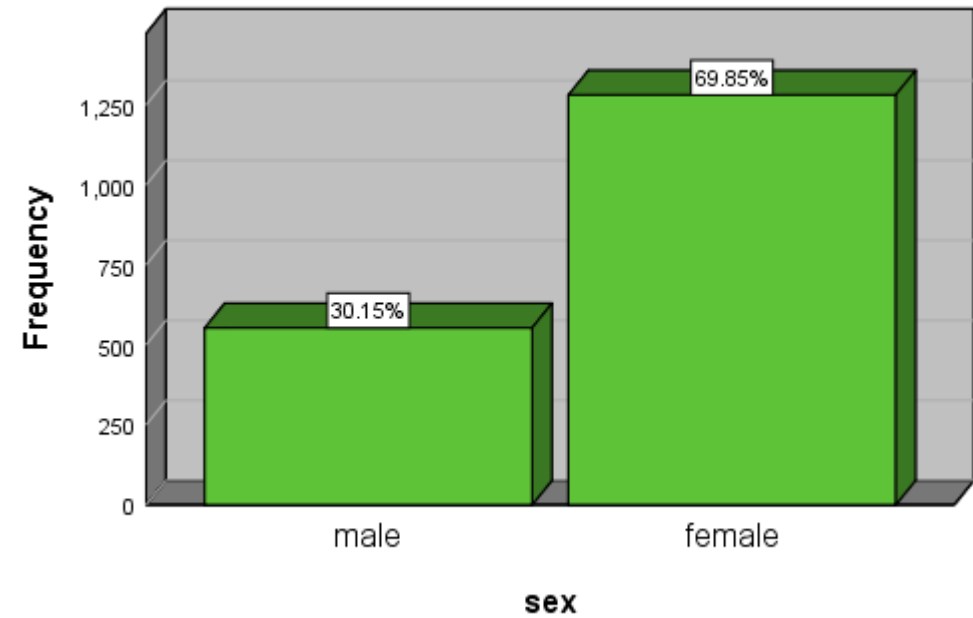
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | no | 1696 | 92.5 | 92.5 | 92.5 |
| | yes | 137 | 7.5 | 7.5 | 100.0 |
| | Total | 1833 | 99.9 | 100.0 | |
| Missing | System | 1 | .1 | | |
| Total | | 1834 | 100.0 | | |

آمار توصیفی در SPSS (توصیف داده های کیفی)

نمودار دایره ای



نمودار میله ای



آمار توصیفی در SPSS (توصیف داده های کیفی)

جدول فراوانی

The screenshot shows the SPSS software interface. The 'Analyze' menu is open, and 'Descriptive Statistics' is selected. The 'Frequencies...' option is highlighted with a red box. In the background, a data table is visible with columns 'sex' and 'age'.

| | sex | age |
|---|--------|-----|
| 1 | female | |
| 2 | female | |
| 3 | male | |
| 4 | female | |
| 5 | female | |
| 6 | female | |
| 7 | female | |
| 8 | female | |

آمار توصیفی در SPSS (توصیف داده های کیفی)

نمودار

The screenshot displays the SPSS 'Graphs' menu. The 'Bar...' and 'Pie...' options are highlighted with red boxes. The background data table is as follows:

| | sex | age | | | | | |
|----|--------|-----|----|----|--|--|--|
| 1 | female | 18 | | | | | |
| 2 | female | 22 | | | | | |
| 3 | male | 23 | no | no | | | |
| 4 | female | 25 | no | no | | | |
| 5 | female | 27 | no | no | | | |
| 6 | female | 28 | no | no | | | |
| 7 | female | 29 | no | no | | | |
| 8 | female | 29 | no | no | | | |
| 9 | female | 29 | no | no | | | |
| 10 | female | 30 | no | no | | | |
| 11 | male | 30 | no | no | | | |
| 12 | male | 30 | no | no | | | |
| 13 | female | 31 | no | no | | | |
| 14 | female | 31 | no | no | | | |



آمار توصیفی در SPSS (توصیف داده های کمی)

شاخص های مرکزی

✓ میانگین

✓ میانه

✓ مد/نما

شاخص های پراکندگی

✓ واریانس

✓ انحراف استاندارد

✓ دامنه تغییرات و...

آمار توصیفی در SPSS (توصیف داده های کمی)

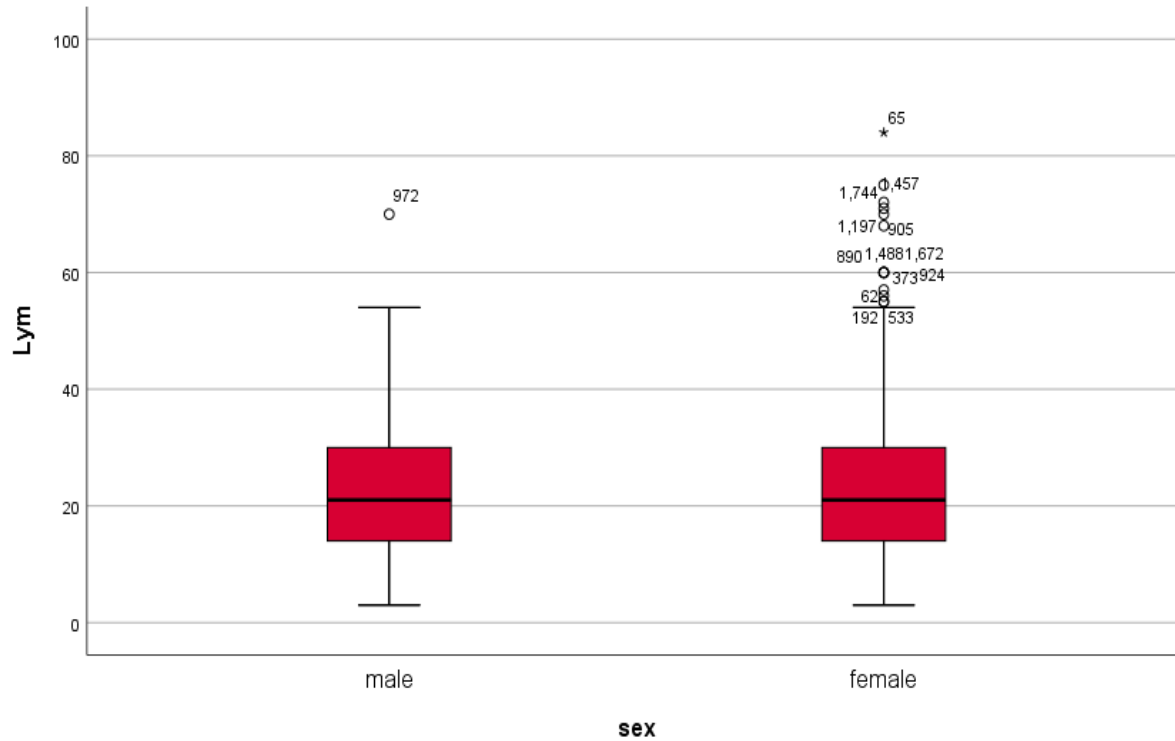
شاخص های آماری

| | | Statistics | | | | | |
|----------------|---------|------------|---------|------------------|-------|------------|---------|
| | | age | SPO2 | BS | Hb | LDH | Lym |
| N | Valid | 1834 | 1834 | 1834 | 1834 | 1834 | 1834 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean | | 60.53 | 83.62 | 144.08 | 13.90 | 636.02 | 22.45 |
| Median | | 62.00 | 88.00 | 119.00 | 14.00 | 556.50 | 21.00 |
| Mode | | 64 | 88 | 104 ^a | 15 | 518 | 20 |
| Std. Deviation | | 16.754 | 10.912 | 76.588 | 2.120 | 572.971 | 11.454 |
| Variance | | 280.704 | 119.063 | 5865.655 | 4.494 | 328296.045 | 131.184 |
| Range | | 80 | 89 | 803 | 36 | 19968 | 81 |

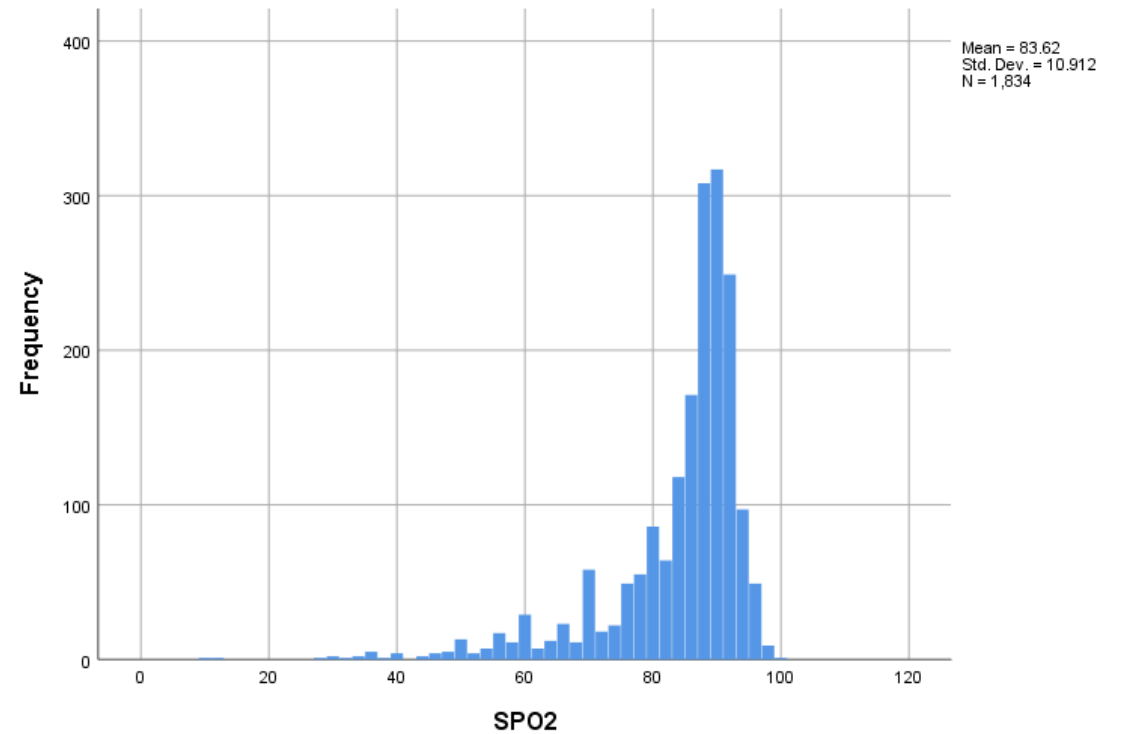
a. Multiple modes exist. The smallest value is shown

آمار توصیفی در SPSS (توصیف داده های کمی)

نمودار Boxplot



نمودار هیستوگرام



آمار توصیفی در SPSS (توصیف داده های کمی)

The screenshot shows the SPSS software interface. The 'Analyze' menu is open, and 'Descriptive Statistics' is selected. The 'Frequencies...' and 'Descriptives...' options are highlighted with a red box. The data view shows a table with columns 'sex' and 'age' and rows 1 through 10.

| | sex | age |
|----|--------|-----|
| 1 | female | |
| 2 | female | |
| 3 | male | |
| 4 | female | |
| 5 | female | |
| 6 | female | |
| 7 | female | |
| 8 | female | |
| 9 | female | |
| 10 | female | |

شاخص های آماری

آمار توصیفی در SPSS (توصیف داده های کمی)

نمودار

The screenshot shows the SPSS software interface. The 'Graphs' menu is open, and the 'Histogram...' option is highlighted with a red box. The 'Legacy Dialogs' sub-menu is also visible, and the 'Histogram...' option is highlighted with a yellow background. The data table below shows the variables 'sex' and 'age' for 14 cases.

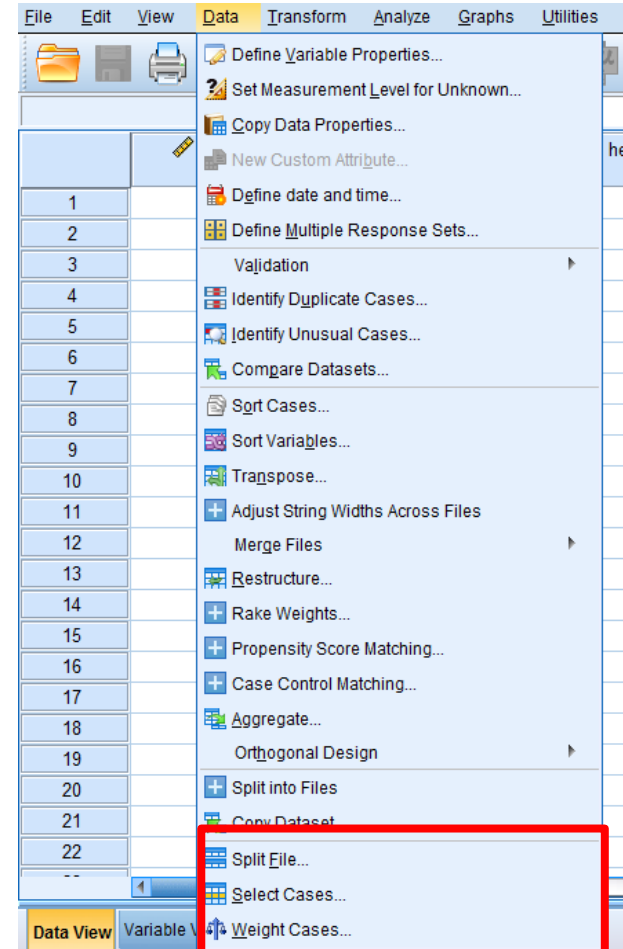
| | sex | age | | | | | |
|----|--------|-----|----|----|--|--|--|
| 1 | female | 18 | | | | | |
| 2 | female | 22 | | | | | |
| 3 | male | 23 | no | no | | | |
| 4 | female | 25 | no | no | | | |
| 5 | female | 27 | no | no | | | |
| 6 | female | 28 | no | no | | | |
| 7 | female | 29 | no | no | | | |
| 8 | female | 29 | no | no | | | |
| 9 | female | 29 | no | no | | | |
| 10 | female | 30 | no | no | | | |
| 11 | male | 30 | no | no | | | |
| 12 | male | 30 | no | no | | | |
| 13 | female | 31 | no | no | | | |
| 14 | female | 31 | no | no | | | |



- **Select case**
- **Split file**
- **Weight case**
- **Compute**
- **Recode data ...**

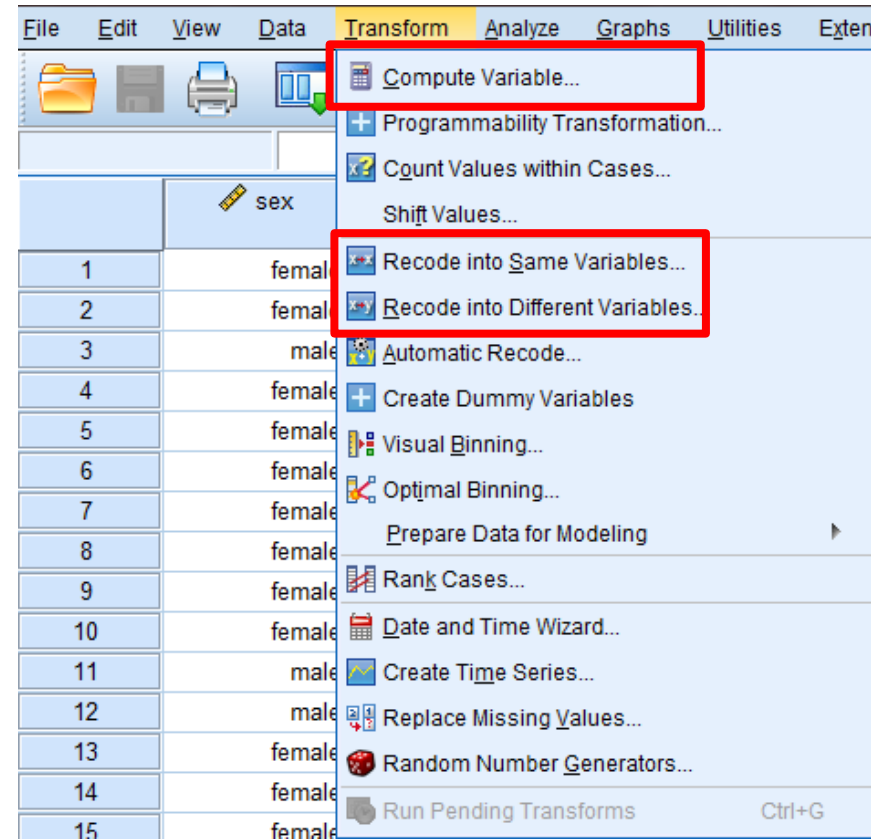
دستوراتی برای دست کاری داده ها

- **Select case**
- **Split file**
- **Weight case**



دستوراتی برای دست کاری داده ها

- **Compute**
- **Recode data ...**





با سپاس از توجه شما