Manual: How to manage a database and cross-tabulate the data in less than 30 steps.

# **Creating the database**

1. Create a new database in MS Access 2007

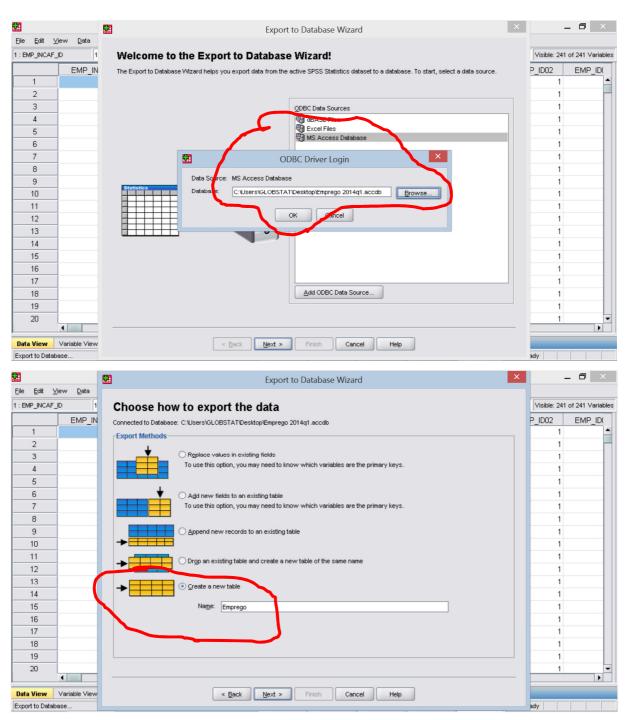


**Export or import the data** to the database. Here the data are exported from SPSS and the weights are imported from Excel.

| New                              | •           |          |            |                    |     |          | Visible: 241 | of 241 Varia |
|----------------------------------|-------------|----------|------------|--------------------|-----|----------|--------------|--------------|
| Open                             | •           | HOUSE_ID | EMP_MEM_ID | QP00               | QPO | EMP_ID01 | EMP_ID02     | EMP_ID       |
| Open Data <u>b</u> ase           | •           | 10       | 1          | I SANATO ASSANE    | 65  | 1        | 1            |              |
| Rea <u>d</u> Text Data           |             | 13       | E          | 6 CHAIBO OMAR      | 18  | 1        | 1            |              |
| 🞽 Glose                          | Ctrl-F4     | 2        | 1          | 1 HASSAN OMAR      | 70  | 1        | 1            |              |
| Save                             | Ctrl-S      | 1        | 1          | LARMA ASSANE       | 20  | 1        | 1            |              |
| Save As                          |             | 6        | 1          | I ARAJA AWILO      | 71  | 1        | 1            |              |
| Save All Data                    |             | 5        | 1          | I SAUCEGE AISSA    | 75  | 1        | 1            |              |
| Export to Database               |             | 1        | 2          | 2 RITA SAIDE       | 16  | 1        | 1            |              |
| Mark File Read Only              |             | 2        | 2          | 2 ANGINGE DAUDE    | 68  | 1        | 1            |              |
|                                  |             | 6        | 2          | 2 ASSANE SAIDE     | 20  | 1        | 1            |              |
| 🥂 Rena <u>m</u> e Dataset        |             | 6        | 3          | 8 RABIA ASSANE     | 5   | 1        | 1            |              |
| Display Data File Information    | •           | 13       | 5          | 5 AMINA JAMBO      | 6   | 1        | 1            |              |
| Cac <u>h</u> e Data              |             | 13       | 1          | I JAMBO MADILE     | 35  | 1        | 1            |              |
| Stop Processor                   | Ctrl-Period | 13       | 2          | 2 CHELINA OMAR     | 28  | 1        | 1            |              |
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| E <u>×</u> it                    |             |          |            |                    |     |          |              | •            |

2. In SPSS select File and Export to Database.

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3. Export the table to a new table – here named *Emprego*.

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| •   |                                    | <b>2</b>  | Expo        | ort to Database Wizard   |   |   | ×        |   |                  |
|---|------------------------------------|---|-------------|--|---|---|----------|---|------------------|
| Eile Edit Y   | <u>√</u> iew <u>D</u> ata<br>_ID 1 | Select variables to store i   | n new       | r table  |   | <b>→</b>  | <b>T</b> | Visible: 241 o                                      | of 241 Variables |
| 1<br>2<br>3<br>4                                    | EMP_IN                             | To save a variable in a field, place it in the Variable<br>Click on the new field name, type, or width to edit.<br>SPSS Statistics: Base Emprego Trin1.sav [DataSc<br>OPD6. Porque procurou emprego pela primel.  | Check the I |  |   | Туре  |          | P_ID02 1<br>1<br>1<br>1<br>1<br>1                   | EMP_ID           |
| 5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13       |                                    | QP06. Especifique [QP06_ESPECIF]     GP07. Especifique [QP07_ESPECIF]     QP08. Especifique [QP07_ESPECIF]     QP09. Há quanto tempo procura emprego? [     QP09. Há quanto tempo procura emprego? [     QP10. Qual é a sua principal ocupação? Ist.     QP14. Horas trabalhadas Actividade Principal     QP14 Horas trabalhadas Actividade Princip14     QP14 Horas trabalhadas Actip14     QP14     QP14 Horas tr |             | EMP_INCAF_ID     EMP_HOUSE_ID     EMP_HOUSE_ID     EMP_MEM_ID     GP01     GP02     GP03     GP04     GP05     F | EMP_INCAF_ID<br>EMP_HOUSE_ID<br>EMP_MEM_ID<br>GP01<br>GP02<br>GP03<br>GP04<br>GP05<br>GP06<br>ESPECIF | double<br>double<br>double<br>double<br>double<br>double<br>double<br>double<br>varchar |          | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |                  |
| 14<br>15<br>16<br>17<br>18<br>19<br>20<br>Data View | Variable View                      | Fight-click on a variable for more informati User-Missing Values     Export as valid values     Export numeric user-missing values as nulls   |             |  | <br>spaces  |   |          | 1<br>1<br>1<br>1<br>1<br>1                          |                  |
| Export to Data                                      |                                    |   | Liney! .    | Cance  | . rock  |   |          | ady   |                  |

4. Click *External data* and *Excel* and select the table and follow the instructions. No primary key.

|  | Emprego 2014q1 : Databa  | ase (Access 2007) - Microsoft Acc   | ess   | _ 0 ×   |
|--|--|---|---|---|
| Home Create External Data                                    | Get  | External Data - Excel Spreadshee  | t ?   | × 🛛   |
| Saved Access Excel SharePoint List Mo                        | Select the source and destination of the   | e data  |   |   |
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|  | Specify how and where you want to store the data in t      Jmport the source data into a new table     If the specified table does not exist, Access will     Imported data. Chang     Link to the data st | in the current database.  | -   | ×   |
|  | Access will create a ta<br>linked table. However   | → Moz 2014-2 →  | ✓ C Search Moz 2014-2   | P   |
|  | Organise 🔹 N   | ew folder   | •   | 0   |
|  | <ul> <li>Downloads</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>OS (C:)</li> <li>DATA (D:)</li> </ul>   | <ul> <li>Name</li> <li>Questionarios Finais</li> <li>Relatórios</li> <li>Income</li> <li>mismatch</li> <li>Weights_Trimestre I</li> </ul> | Date modified<br>2014-11-28 13:52<br>2014-11-27 07:34<br>2014-11-27 07:30<br>2014-11-28 19:56<br>2014-12-04 08:04 | Type<br>File f<br>File f<br>Micro<br>Micro<br>Micro |

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#### Link the tables

- 5. Click Create
- 6. Click Query Design
- 7. Click the tables to be included (or drag them from the left list).

| Home Create Create Database Tools  | ego 2014q1 : Database (Access 2007) - Micro   | ccess _ D ×                           |
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|  |   | ·                                     |
| Field:   |   | , , , , , , , , , , , , , , , , , , , |
| Table:   |   |                                       |
| Show:  |   |                                       |
| Ready  | Add Close   | Num Lock SQL 💒                        |

- 8. Link the ID variables by dragging them from one table to the other. AF and Emprego are linked by ID06, ID07 and ID13. Weights are linked by ID06.
- 9. Double click on each line and decide the direction of the link. Here we want to include all records/people in the table *Emprego*.

| Home Create         | Query Tools     External Data     Database Tools     Design   | q1 : Database (Access 2007) - Microsoft Access 🗕 🗖 🗙   |
|---------------------|---|--|
|                     | 1 +! /! III ×! OUnion   | Insert Rows To lete Columns<br>Delete Rows To Delete Columns<br>Builder Totals Columns<br>Query Setup<br>Columns Columns<br>Totals Table Names<br>Totals Property Sheet<br>Totals Property Sheet<br>Totals Property Sheet<br>Show/Hide         |
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|                     |   | •  |
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| Home Create Externa  | I Data Database Tools                               | Query Tools Empre                 | ego 2014q1 : Da  | abase (Access 20  | 07) - Microsoft Ac   | cess                   | -                        | . 🗇 🗙                     |
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|  | ort:<br>ow:<br>eria:<br>or:                         | ✓                                 | ✓  | ✓   | ✓  | ✓                      | <b>v</b>                 |                           |
|  | 4   |                                   |  |   |  |                        |                          | •                         |
| Ready  |   |                                   |  |   |  |                        | Num Lock                 |                           |

- 10.Select the variables to be included in the database by dragging them down to the *Field* row. In the new table, each object/record will have a row and each variable a column.
- 11. The data can be manipulated in different ways by using the *Builder* in an empty column. Here the worked hours are multiplied with the weights and only people aged 15+ (> 14) are selected. Age AF05 was dragged down twice. The one used for *Where* will not be shown.

| Table: Emprego Emprego Weights AF AF AF AF AF  | 12 Create            | External Data             | Database Tools   | Design              | 🗘 🔤 🖓 🖬 Insert Ro                                  | utabase (Access 20 | S Proper    | rty Sheet | -        | . a ×   |
|--|----------------------|---------------------------|--|---------------------|--|--------------------|-------------|-----------|----------|---------|
| Security Warning       Certain content in the database has been disabled       Options         All Access O ♥ 《 <ul> <li></li></ul>  | •                    |                           |  |                     | n Shara Builder                                    | Return: All        | Totals      | eters     |          |         |
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| AF<br>Emprego<br>Weights<br>Weights<br>HUD/<br>PESSOAS_NO_AF<br>AF04<br>AF05<br>AF14_C<br>ID01<br>ID10<br>V<br>FIELD<br>EMP_MOUSE_ID<br>EMP_MEM_ID<br>QP02<br>QP03<br>QP04<br>QP05<br>OP07<br>V<br>HUD/<br>Af05<br>AF04<br>AF05<br>AF05<br>AF14_C<br>QP05<br>QP07<br>AF04<br>AF05<br>AF05<br>AF14_C<br>QP05<br>QP07<br>QP07<br>AF04<br>AF05<br>AF05<br>AF14_C<br>QP05<br>QP07<br>AF05<br>AF14_C<br>QP07<br>AF05<br>AF14_C<br>QP05<br>QP07<br>V<br>QP05<br>QP07<br>AF05<br>AF05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>QP07<br>V<br>QP05<br>QP07<br>V<br>QP05<br>QP07<br>AF05<br>AF05<br>AF14_C<br>QP05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>QP05<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>QP05<br>AF14_C<br>QP05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF05<br>AF14_C<br>AF14_C<br>AF05<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF14_C<br>AF | All Access O 💿 《     | Query1                    |  |                     |  |                    |             |           |          | >       |
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| Table Care Pa  |                      |                           |  |                     |  |                    |             |           |          | QP01    |
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| Show: V V V V S Show: Sh   |                      | Show:<br>Criteria:<br>or: |  |                     |  | <b>v</b>           |             |           |          |         |

- 12. Click the Datasheet View under Home and check the results, particularly the number of Records. A query is not creating a permanent table. Any changes in data or manipulations will automatically be included when the query is used.
- 13. To create a new permanent table, first click *Options*... and then *Enable*.

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#### 14. Open the query in Design View and click Make Table

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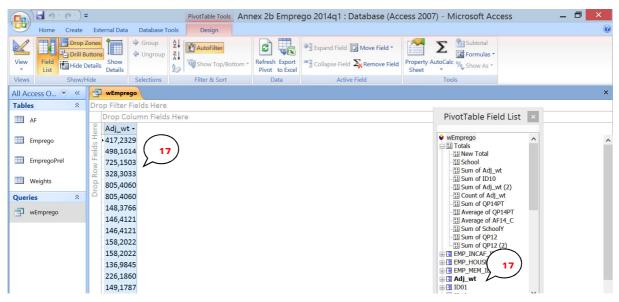
15. Click Run and the new table will be created. If the basic data are corrected the query has to be run again.

#### Using the database

16. Click the PivotTable View under Home.

| -    | 6                 | - (? -): | -                |              |              | Query To              | ools Anr                             | iex 2b E        | mprego 2 | 014q1 : D                  | atabase (Ad | cess 20 | 07) - Microso                               | oft Access | - 6 |          |
|------|-------------------|----------|------------------|--------------|--------------|-----------------------|--------------------------------------|-----------------|----------|----------------------------|-------------|---------|---|------------|-----|----------|
|      | Home              | Create   | Exterr           | al Data Da   | tabase Tools | Desigr                | n l                                  |                 |          |                            |             |         |   |            |     |          |
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|      | Datas <u>h</u> e  | et View  | 16               | Qui          | ery Type     |                       |                                      |                 | Q        | uery Setup                 |             | S       | how/Hide                                    |            |     | ×        |
| 17   | Piv <u>o</u> tTal | ble View | $\checkmark$     | Weigh        | its          |                       | Em                                   | nprego          |          | A                          | ١F          |         |   |            |     | <b>I</b> |
|      | PivotCh           | art View |                  | *<br>IOF     | ID           |                       |                                      | *<br>FMP INC    | AF ID    |                            | *<br>ID06   |         |   |            |     |          |

17. Drag the weight variable into the cell area (Detail Field).



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|         | <b>-</b> - (- | (? -):            | Ŧ       |                     |                     | PivotTable Too   | ls Annex      | 2b Empre                 | ego 2014q1 : Database (Ac                              | cess 2007) - Mi | icrosoft Acc | cess 🗕 🗖 🗙 |
|---------|---------------|-------------------|---------|---------------------|---------------------|--|---------------|--------------------------|--|-----------------|--------------|------------|
|         | Home          | Create            | Ext     | ernal Da            | ta Database T       | ools Design  |               |                          |  |                 |              | 0          |
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| Views   |               | Show/H            | Hide    |                     | Selections          | Filter & Sort  |               | Data                     | Active Field   | Tools           | 5            |            |
| All Acc | ess O         | € «               |         | wEmp                | rego                |  |               |                          |  |                 |              | ×          |
| Tables  |               | *                 | Dro     | p Filte             | r Fields Here       |  |               |                          |  |                 |              |            |
| AF      | F             |                   |         |                     | Column Field        | s Here   |               |                          |  |                 |              |            |
| 🛄 Er    | nprego        |                   | -s      | Adj<br>417,<br>498, | Copy<br>Sort        | •  |               |                          |  |                 |              | ^          |
| 💷 Er    | npregoPre     | el                | w Field | 725                 |                     | om Ordering  |               |                          |  |                 |              |            |
| III w   | leights       |                   | rop Ro  | 020                 | Auto <u>F</u> ilter | /Bottom Items  |               | $\bigcap$                | ١  |                 |              |            |
| Querie  | s             | *                 |         | 805,                | 🝸 🛛 Filter By S     | election   |               | 18                       | )  |                 |              |            |
| g w     | Emprego       |                   |         | 148,<br>146,        | Σ Auto <u>C</u> alc | •  | <u>S</u> um   | $\sim$                   |  |                 |              |            |
|         |               |                   |         | 146                 | Subtotal            |  | <u>C</u> ount |                          |  |                 |              |            |

- 18. Right click in the data column and click *AutoCalc* and *Sum*.
- 19. Click *Hide Details*. If this is based on a table with households you should now have the expected number of households in Mozambique and if it based on a table with people you should get the total population.
- 20. Then it's just to drag in any variable to the *Column Field* or to the *Row Field*. To select a part of the population, the *Filter Field* can be used.

| View Field List Hide | Details       |                   | 201          | v rop/bottom  | Refresh Export<br>Pivot to Excel |         |                   | Sheet | toCalc 🍫 Show As 🔻 |             |  |  |  |
|----------------------|---------------|-------------------|--------------|---------------|----------------------------------|---------|-------------------|-------|--------------------|-------------|--|--|--|
| Views Show/          | Hide          | Selections        | Filter       | & Sort        | Data                             |         | Active Field      |       | Tools              | $\frown$    |  |  |  |
| All Access O 💌 🤘     | wEmpreg       | 📴 wEmprego ( 21 ) |              |               |                                  |         |                   |       |                    |             |  |  |  |
| Tables 🕆             | Drop Filter F | ields Here        |              |               |                                  |         |                   |       |                    | Z           |  |  |  |
| AF                   |               | QP01 -            |              |               |                                  |         |                   |       | PivotTable Fie     | ld List 🛛 🗵 |  |  |  |
|                      |               | 1                 | 2            |               | 3                                |         | Grand Total       |       |                    |             |  |  |  |
| Emprego              | ID01          | Sum of A          | dj_wt (3) Su | m of Adj_wt ( | 3) Sum of Ad                     | _wt (3) | Sum of Adj_wt (3) |       | - 13 Average of Af |             |  |  |  |
| EmpregoPre           | 1             | 3319              | 981,6909     | 381782,983    | 7 41                             | 76,0670 | 717940,7415       |       | -昭 Sum of QP12     |             |  |  |  |
| EmpregoPrel          | 2             | 619               | 587,9026     | 334139,225    | 4 949                            | 94,9375 | 963222,0655       |       | EMP INCAF ID       | (2)         |  |  |  |
| Weights              | 3             | 1505              | 744,7797     | 835564,995    | 9 1118                           | 35,7583 | 2352495,5339      |       | EMP_HOUSE_ID       | e           |  |  |  |
|                      | 4             | 15440             | 035,9393     | 652917,445    | 6 4508                           | 31,9043 | 2242035,2893      |       | B EMP_MEM_ID       |             |  |  |  |
| Queries *            | 5             | 700:              | 126,1913     | 446160,951    | .7 530                           | 03,6286 | 1151590,7715      |       | H ID01             |             |  |  |  |
| wEmprego             | 6             | 553               | 764,6149     | 388066,526    | 1 80                             | 59,5787 | 942700,7196       |       | 🕀 🖪 ID10           |             |  |  |  |
|                      | 7             | 6350              | 001,8212     | 387967,536    | 5 13                             | 36,9845 | 1023106,3421      |       | AF04               |             |  |  |  |
| <b>\</b>             | 8             | 4129              | 954,6888     | 303005,001    | .8 5283                          | 32,5257 | 768792,2164       |       |                    |             |  |  |  |
| <b>\</b>             | 9             | 4213              | 312,6888     | 272028,893    | 0 1179                           | 92,4519 | 705134,0337       | - ( ) | 🗄 🖪 QP01           |             |  |  |  |
| <b>ر</b>             | 10            | 6000              | 96,0469      | 359101,055    | 6 348                            | 30,1760 | 962677,2785       |       |                    |             |  |  |  |
|                      | 11            | 405               | 749,2422     | 359253,287    | 8 17                             | 76,2520 | 766778,7820       |       | ⊕ 🔄 QP04           |             |  |  |  |
|                      | Grund Total   | 7730              | 355,6066     | 4719987,903   | 0 1461                           | 30,2644 | 12596473,7740     |       | 1 QP05             |             |  |  |  |

21. Numbers are changed to % by clicking Show As.

|         | 5-            | (~~);                    | ÷                            |                      | PivotTable Tools | Annex  | 2b Empre                      | go 2014q1 :             | Database (Acc   | ess 2007) - Micro     | soft Acces                     | s      | _ 0 | × |
|---------|---------------|--------------------------|------------------------------|----------------------|------------------|--------|-------------------------------|-------------------------|-----------------|-----------------------|--------------------------------|--------|-----|---|
|         | Home          | Create                   | External Data                | Database To          | ols Design       |        |                               |                         |                 |                       |                                |        |     | 0 |
| View    | Field<br>List | Drop 2                   | uttons<br>Details<br>Details | 🔶 Group<br>💠 Ungroup | 2 AutoFilter     | m + Re | Fresh Export<br>ivot to Excel |                         | E Skemove Field | Property AutoCalc % S | ormulas *                      |        |     |   |
| Views   |               | Show/H                   | lide                         | Selections           | Filter & Sort    |        | Data                          | Activ                   | ve Field        | Tools                 |                                |        |     | _ |
| All Acc | cess O        | <ul><li>✓ &lt;</li></ul> | wEmpre                       | go                   |                  |        |                               |                         |                 |                       |                                |        |     | × |
| Tables  | s             | *                        | Drop Filter                  | Fields Here          |                  |        |                               |                         |                 |                       |                                |        |     |   |
|         | ٩F            |                          |                              | QP01 -               | $\bigcirc$       |        |                               |                         |                 | PivotT                | able Field I                   | List × |     |   |
| E       | Emprego       |                          | ID01                         | ✓(All) □(Blank) ✓ 1  | 22               |        | 3<br>+<br>Sum of Adj          | Grand<br>_wt (3) Sum of |                 |                       | erage of AF14_<br>m of SchoolY | с ^    |     |   |
| ше      | EmpregoPre    |                          | 1                            | ≛ ⊠2                 |                  | 3,09%  |                               | 2,86%                   | 5,70%           |                       | m of QP12                      |        |     |   |
| E       | mpregorn      | ei                       | 2                            | ± ⊠3                 |                  | 7,08%  |                               | 6,50%                   | 7,65%           | EMP                   | m of QP12 (2)                  |        |     |   |
| III v   | Neights       |                          | 3                            | + -                  |                  | 7,70%  |                               | 7,65%                   | 18,68%          |                       | HOUSE_ID                       |        |     |   |
|         | 5             |                          | 4                            | *                    |                  | 3,83%  |                               | 30,85%                  | 17,80%          | EMP_                  |                                |        |     |   |
| Querie  | es            | *                        | 5                            | +                    |                  | 9,45%  |                               | 3,63%                   | 9,14%           |                       |                                |        |     |   |
| j v     | wEmprego      |                          | 6                            | +                    |                  | 3,22%  |                               | 0,60%                   | 7,48%           | 🖶 🖪 ID10              |                                |        |     |   |
|         |               |                          | 7                            | * OK                 | Cancel           | 3,22%  |                               | 0,09%                   | 8,12%           | ■ ■ AF04              |                                |        |     |   |
|         |               |                          | 8                            | -                    | 5,5470           | 5,42%  |                               | 36,15%                  | 6,10%           | Ano                   | _C                             |        |     |   |

22. Categories within the variable can be selected by ticking the boxes and the order can be changed by dragging the categories up or down.

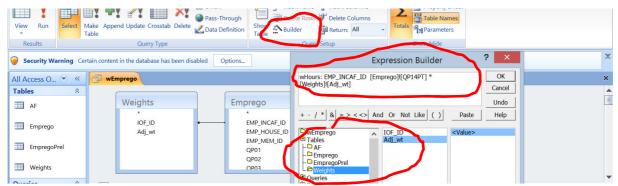
Manual: How to manage a database and cross-tabulate the data in less than 30 steps.

23. Variables (e.g. age) can be grouped by clicking the first and the last category when holding the *shift* key. Click *Group* or right click and *Group items*. Click "-" to hide the details.

| Drop Zo                 |                        | 1                |                       | C20 Emplego 20   | 1491 . Database (A                                    | ccess 2007) - Microsoft Access                  | _ 🗇 🗙           |
|-------------------------|------------------------|------------------|-----------------------|------------------|---|---|-----------------|
| Drop Zo                 | ones 📬 🗭 Grou          | 1                |                       |                  |   |   |                 |
| View Field List Hide De | etails Show<br>Details | oup              | A AutoFilter          | efresh Export    | and Field 🗊 Move Field 🛪<br>lapse Field 🔊 Remove Fiel | Sheet • • • • • • • • • • • • • • • • • •       |                 |
| Views Show/Hit          |                        | ns               | Filter & Sort         | Data             | Active Field  | Tools   |                 |
|                         | wEmprego               |                  |                       |                  |   |   |                 |
| Tables 🏾 🕆              | Drop Filter Fields H   |                  |                       |                  |   |   | _               |
| AF                      | QP01                   | -                |                       |                  |   | PivotTable Field List                           | k               |
|                         | 1                      |                  | Сору                  | 3                | Grand Total   |   |                 |
| Emprego                 | Ano Sum o              |                  |                       | Sum of Adj_wt (3 | Sum of Adj_wt (3)                                     | - 1월 Average of AF14_C ,<br>- 1월 Sum of SchoolY | ^               |
| EmpregoPre              | 15                     | 40               | Clear Custom Ordering | 4,28%            | 4,35%   | 18 Sum of QP12                                  |                 |
| EmpregoPre              | 16 📫                   |                  | AutoFilter            | 2,74%            | 3,68%   | B Sum of QP12 (2)                               |                 |
| Weights                 | 17 🗄                   |                  | -                     | 7,15%            | 3,60%   | EMP_HOUSE_ID                                    |                 |
|                         | 18 📫                   |                  | Show Top/Bottom Items | 4,80%            | 4,42%   | EMP_MEM_ID                                      |                 |
| Queries *               | 19 🗄                   | Y                | Filter By Selection   | 3,59%            | 3,67%   |   |                 |
| 📑 wEmprego 🗌            | 20 📫                   | Σ                | Auto <u>C</u> alc     | 2,41%            | 3,83%   | 🕀 🖪 ID10  |                 |
|                         | 21 📫                   | <b>*</b>         | Subtotal              | 4,99%            | 2,49%   | AF04  |                 |
|                         | 22 📫                   | $\Sigma_{\!\!X}$ | Remove                | 3,20%            | 3,23%   |   |                 |
|                         | 23 📫                   | -                | Group Items           | 2,33%            |   |   |                 |
|                         | 24 🗄                   |                  | -                     | 1,73%            | ,   | ⊕ GP02  |                 |
|                         | 25                     |                  | Ungroup Nems          | 2,43%            |   | ⊞ 🖪 QP04  |                 |
|                         | 26                     | _                | <u>E</u> xpand        | 1,25%            |   |   |                 |
|                         | 27 *                   | -3               | C <u>o</u> llapse     | 1,88%            |   |   | ~               |
|                         | 28 1                   | Ť                | Hide Details          | 1,50%            |   | Add to Row Area                                 | <b>~</b>        |
|                         | 29 =                   | iī               | Show Details          | 4,11%            | ,   |   |                 |
|                         | 30 ±                   | RE               | Field List            | 3,41%            |   |   |                 |
| Ready                   | 24 <sup>±</sup>        | 1                | Properties            | 0.070            | 1.00/   | N   | um Lock 🔲 🤀 🕮 👀 |

If you select *Count* at 18 you will get the number of respondents. You can also select *Average*, but then you have to check if blanks are included or not. Generally this average will be the average for those who have a value. It may be safer to divide the sum of e.g. worked hours with the weight for the same group. This will produce the average for the group including those not working.

24. To do this a new column should be created in a query. Point in the first empty column and click *Builder*. Give the variable a name ending with ":", here "*wHours*". Click first on table *Emprego* and double-click on *QP14T*. Then click or key \* and click on table *Weights* and double-click on *Adj\_wt*.



The weighted hours will now be calculated in the column wHours.

| EmpregoPrel |           | Adj_wt   | EN<br>QI<br>QI         | AP_HOUSE_ID<br>AP_MEM_ID<br>201<br>202<br>203 |       | _AMOSTRA<br>01 |            |  | Ţ |
|-------------|-----------|----------|------------------------|---|-------|----------------|------------|--|---|
| Queries ×   | 4         |          |                        |   |       | -              |            |  | • |
| 🗊 wEmprego  |           | [        |                        |   |       |                |            |  |   |
|             |           | QP18     | SchoolY: [Emprego]![QP | QP16  | AF05  | wHours: [Em    | prego]![QP |  |   |
|             | Table:    | Emprego  |                        | Emprego                                       | AF    |                |            |  | = |
|             | Total:    | Group By | Group By               | Group By                                      | Where | Group By       |            |  |   |
|             | Sort:     |          |                        |   |       |                | /          |  |   |
|             | Show:     | ✓        | ✓                      | ✓   |       |                |            |  |   |
|             | Criteria: |          |                        |   | >14   |                |            |  |   |
|             | or:       |          |                        |   |       |                |            |  |   |

#### Manual: How to manage a database and cross-tabulate the data in less than 30 steps.

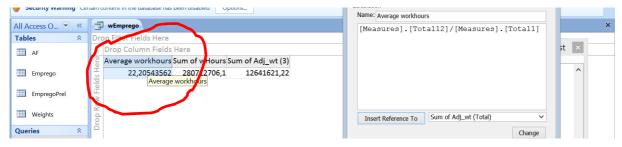
- 25. In the Pivot view, drag in the *wHours* and *Sum* them according to 17-18 above. Also drag in the weights (they will be summed automatically).
- 26. Click Formulas in the Design menu and click Create Calculated Total.

|         | Home Cr       | reate l                 | xternal Data        | Database T                              | ools Design                    |                                  |                               |                            | $\frown$                               | 0 |
|---------|---------------|-------------------------|---------------------|---|--------------------------------|----------------------------------|-------------------------------|----------------------------|--|---|
|         |               | Drop Zon<br>Drill Butte |                     | <ul><li>Group</li><li>Ungroup</li></ul> | AutoFilter                     | 3                                | Expand Field 🚺 Move Field 👻   |                            | Subtotal (26)                          |   |
| View    | Field<br>List | Hide Deta               | ils Show<br>Details |   | Show Top/Bottom *              | Refresh Export<br>Pivot to Excel | Collapse Field 💫 Remove Field | Property AutoCalc<br>Sheet | Create Calculated Iotal                |   |
| Views   | S             | how/Hide                | •                   | Selections                              | Filter & Sort                  | Data                             | Active Field                  | Tool                       | Create Calculated Detail <u>F</u> ield |   |
| 🤘 Secu  | urity Warning | <b>g</b> Certair        | n content in th     | he database ha                          | s been disabled Options        |                                  |                               |                            |  | × |
| All Acc | ess O 💌       | « [                     | wEmpre              | go                                      |                                |                                  |                               |                            |  | × |
| Tables  |               | * D                     | rop Filter          | Fields Here                             |                                |                                  |                               |                            |  |   |
| AF      | F             |                         |                     | numn Fields                             |                                |                                  |                               |                            |  |   |
| 💷 Er    | mprego        |                         | 2807                | wHours Sun<br>12706,1                   | n of Adj_wt (3)<br>12641621,22 |                                  |                               |                            |  |   |
| 🛄 Er    | mpregoPrel    |                         |                     |   |                                |                                  |                               |                            |  |   |
| 💷 w     | /eights       | and and                 |                     |   |                                |                                  |                               |                            |  |   |
| Querie  | s             | *                       | 2                   |   |                                |                                  |                               |                            |  |   |
| j w     | Emprego       |                         |                     |   |                                |                                  |                               |                            |  |   |

In the Properties sheet first select the Total wHours and click Insert Reference To. Then enter "/" and select Total weights and Insert Reference To and click change.

|          | Home Crea  | le    | external Data | a Database i | Des         | ign            |                                  |            |   |      |   |
|----------|--|-------|---------------|--------------|-------------|----------------|----------------------------------|------------|---|------|---|
|          |  |       |               | Group        | Ž↓ Auto     | Filter         | 2                                | Expand Fie | eld 词 Move Field -                          |      |   |
| View     | View Field Hide Details Show   |       |               |              |             | v Top/Bottom * | Refresh Export<br>Pivot to Excel | Collapse F | Properties ×                                |      |   |
| Views    | Sho  | w/Hid |               |              |             |                | Data                             | A          | Format Captions Calculation Report Behavior |      |   |
| 🤪 Secu   | Security Warning Certain content in the database has been disabled Options |       |               |              |             |                |                                  |            |   |      | x |
| All Acce | ess O 👻 🤇  |       | wEmpr         | ego          |             |                |                                  |            | [Measures].[Total12]/[Measures].[Total1]    |      | × |
| Tables   | 1  | : [   | Prop Filter   | Fields Here  |             |                |                                  |            |   | -    |   |
| AF       | AF D   |       |               | olumn Field  | s Here      |                |                                  |            |   | st × |   |
|          |  |       |               | otal (3) Sum | of wHours S | um of Adj_w    | rt (3)                           |            |   |      |   |
| En En    | nprego   |       | E E           | 0 28         | 80712706,1  | 1264162        | 1,22                             |            |   | ^    |   |
| 🛄 En     | npregoPrel   |       | ow Fields     |              |             |                |                                  |            |   |      |   |
| 💷 w      | eights   |       | Urop K        |              |             |                |                                  |            | Insert Reference To Sum of Adj_wt (Total)   |      |   |
| Queries  | s 🖇  | : (   |               |              |             |                |                                  |            | Change                                      |      |   |
|          | -  |       |               |              |             |                |                                  |            |   |      |   |

Now the average will be presented in a new column.



The strength with Access is that tables/files can easily be linked and systematically structured. The use of the tables described here can also be done with the pivot function in Excel. Access 2013 and Access 365 no longer have the pivot function so you have to do it Excel.