IC^E Reference Sheet

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Flexible Table Generation: Type I or Type II?

• **Type I (single data stock)**

  Generating tables based upon a **unique** data stock.
  - There is only a low risk of compiling data wrongly and of making errors in data interpretation.
  - But: The possibility to combine various data is limited.

• **Type II (multi data stock)**

  Generating tables based upon **multiple** data stocks.
  - Tables can be made by using data of different sources.
  - But: It is possible to generate useless or wrong data-compilation.

Flexible Table Generation: Procedure

1. **Tab "Keywords"**: Choose one or more keywords, then push the search button: [Start search]. The system automatically includes "final data" ("endgültige Daten"), in order to avoid the usage of "interim data". But if reqired, this preselection can be undone.

2. **Tab "ICE-Data Stock"**: Displays an overview of data stocks. To see more select [Next stock]. Choose a data stock number and click on [Details] for detailed information.

3. **Tab "Stock Selection"**: Shows a detailed overview of the chosen data stock. Does the data stock provide the required characteristics along with the needed attributes? If not, go back to "2." (tab "ICE-Data Stock"). If yes, click on [Define table] to define the table.

4. **Tab "Table Definition"**: Determine which characteristics along with which attributes are to be assigned to columns and which to rows (see below "Table Definition").

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Table Definition: Outline

1. **Preparation of the table structure**: Which characteristics do you want to appear in the columns and rows?

2. **Select a characteristic** (e.g. "gender") in the left window; click on [Columns] to display the attribute in columns (or alternatively on [Rows] to display it in rows). Select [>] to show the attributes of a characteristic (e.g. "total", "male", "female") in the right window. **Build tables from the inside to the outside**: The first chosen characteristic appears in the innermost row or column, and the last chosen in the outermost.

Example table construction: The first chosen characteristic for the rows is "nationality" (inside), the second is "type of higher education institution" (outside)

		Studierende			
		2002			
		insg.	männl.	weibl.	insg.
Hochsch. insg.	Deutsche	1711785	903218	808567	1773329
	Ausländer	227026	468921	109821	246136
Fachhoch-schul. insg.	Deutsche	468921	286499	182422	498600
	Ausländer	47202	30320	16882	52975

outside → inside | outside ← | inside ←

3. **Select a single or various attributes** (e.g. "female") by clicking on [<] (multiple selections are possible). Then select [Next characteristic]. Repeat steps 2. and 3. until there is at least one attribute in the rows and one in the columns.

4. **Optional characteristics:** You do not need to select all possible characteristics and attributes, and if you leave out attributes, the system automatically uses "total" (e.g. the total of "male" and "female" for the characteristic "gender").

5. **Obligatory (!) characteristics:** Characteristics marked with an exclamation mark must be selected because obligatory characteristics do not have a sensible "total". So the system cannot take a sensible default (e.g. the total of a characterisitc like "point in time" - that means the summation of the number of students for various years - is normally senseless).

6. **Monitoring the table configuration:**
   a) Select **[Preview]** to show the table structure in a new window (without data).
   b) Select **[Table outline]** to list the chosen characteristics along with their attributes.

7. If needed, **adjust the table structure** by deleting characterisitics and choosing other characteristics (Change of characteristics) or by rearranging the characteristics (highlight a characteristic, select [Move], and drag it to a new position).

8. **To extract data from the ICE-database** select [Table generation].

9. Where required change table title. **Build up table** by selecting [OK --> Next]. Depending on the capability of the network connection, the building process of the first table in the session may last a little while (because large program libraries have to be loaded).

10. If required: **Run calculations in the table** (see below "ICE-Spread Sheet").

11. If required: **Save** the table as **Excel-**, **HTML- or PDF-file** on your own storage medium by selecting [Excel], [HTML], or [PDF]. Depending on its configuration, the browser will ask you to save the file, it will open the file directly, or it will display it in a browser window. In the latter case you can save the table by selecting "File|Save as..." in the menu of the browser.

12. If required: **Save as a standard table** (see below "Generation and Updating of Standard Tables").

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Table Definition: Attributes "altogether" and "total"

The attribute "altogether" is available for every characteristic. It enables you to build any sum. By using **"altogether"** the system **sums up all data of the chosen attributes** (Example 1). By contrast the attribute **"total" show**s **the total number of a characteristic**, even if only a few or no attributes at all have been selected (Example 2). Normally it is not useful to select both of these attributes (Example 3), because the "total" would be included in the summation.

Example 1:		Example 2:		Example 3:	
		Total:	9,000 Stud.	Total:	9,000 Stud.
Medicine:	2,000 Stud.	Medicine:	2,000 Stud.	Medicine:	2,000 Stud.
Engineering.:	1,000 Stud.	Engineering:	1,000 Stud.	Engineering:	1,000 Stud.
Law:	1,500 Stud.	Law:	1,500 Stud.	Law:	1,500 Stud.
Altogether:	4,500 Stud.			Altogether:	13,500 Stud.

(Mistake! Senseless addition!)

Table Definition: Sorting of Attributes

Some characteristics are organised hierarchically. So every college and university in Germany belongs to a federal state, just as to a type of institution (e.g. college of art). The system knows such inter-relations, and it provides multistage sorting functions:

1. At the selection of attributes: **Select [Sort]** underneath the right window. Predefined sorting premisis show up in the left window (for the characteristic "place of university" ("Hochschulstandort") e.g. "Germany" ("Deutschland") and "type of institution" ("Hochschulart")).

2. **Double click** on one or more of the displayed **sorting functions**.

3. Select **[End of sorting selection]** to start the sorting process. This way you can generate nested tables, e.g.

Berlin	14,000
Universities	11,000
Freie Uni	3,800
Humboldt Uni	3,900
Brandenburg	5,400
...	...

Alternatively you can sort attributes in alphabetical order, no matter if there are sorting functions or not: **Select [Sorting]** and following **click on [End of sorting selection]**.

Keyword Selection

After choosing a keyword the tab "ICE-Data Stock" displays *the first fitting* stock. By selecting **[Next stock]** you are offered more stocks. Some stocks contain very similar data (e.g. the data of students is available for years and for semesters, and both options will be shown after using the keyword "students"). The following keywords help to generate a distinct stock:

Study demand	Data referring to lectures and teaching
Study supply	Data referring to college staff
Expenditure/Income	Fields of financial statistics of universities and colleges, annual accounting and finance statistics
Population	Comparable age groups, etc.
Indicators	Relational data, quotas, etc.
Point in time	Data for years or for semesters
Notation	Quantity or average

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ICE-Spread Sheet: Data Evaluation

You can open an output table in the ICE-Spread Sheet. This tool allows subsequent data calculations to be carried out, e.g. to display structural coherences between absolute numbers. The system offers:

> **1. Percentage calculations** (base value = 100)
> **2. Indexing** (fixable base value)
> **3. Difference calculations** (absolute value or percentage value)
> **4. Quota calculation** (fixable base value)

Example: We want to calculate the gender ratio in percent in a table that contains the number of students in "total", "male", and "female". The procedure is always very similar:

1. Open **Calculations|Value percentage** in the menu bar.

2. **Define** the required **parameters**:
   - Calculations in columns (see example) or rows
   - Define reference (base value = 100%) by directly clicking on a column or row in the table (click on attributes) (example: attribute "total") . Meanwhile the window "value percentage" remains open.
   - Define target :
     Option a): Select [Automatically adopt attributes of one table section] -> percentage data in the table (for both "male" ("männlich") and female ("weiblich"))
     Option b):Highlight the attribute you want to run calculations on in the table (e.g. "female" ("weiblich") in the example table below).
     - Define table layout (see example: [Show results in new columns]).

3. Select **[OK]** to run the calculations in the table.

Example table:

Hochschulart (einfach)	Staatsan- gehörigkeit	Studierende				Studierende		
		2002				2003		
		insges. Basis=100	männl.	weibl.	Prozent %	insges. Basis=100	männl.	weibl.
Hochsch. insg.	Deutsche	1711785	903218	808567	47.2	1773329	935718	83761
	Ausländer	227026	468921	109821	48.4	246136	125826	120310
Fachhochsch.	Deutsche	468921	286499	182422	28.9	498600	306220	19450

All calculations are executed in one table section, except for quota formation. This function always calculates with two table sections.

Perform more calculations:

If you want to run several calculations: Go to the menu bar. Select "Edit|Initial state". That means that calculations you have done so far are lost. But they can be saved previously. When you export tables to HTML, PDF, or EXCEL the calculations will be transfered, too.

Additional options to edit the table:

- Change labels of rows and columns
- Change the fon- and background color
- Change font
- Connect and seperate cells
- Insert and delete rows

This is a special advantage for all tables: Rows and columns that contain no data can selectively be blanked. (Menu bar "View|Blank|Empty rows and columns")

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Generation and Updating of Standard Tables

The flexible table generation allows you to save **ICE-standard tables** permanently in libraries on the ICE server. They can be enabled for other users and for data-recall facility (search with key-words). ICE-standard tables have a special advantage: The **automatical updating**.

Example: You regularly need information about the gender ration of a subject group in a time se-ries. One-time you generate a suitable table, save it as a standard table, and by running the task, the system will update the table automatically. Procedure:

- **Create a table** using the flexible table generation.
- Save as ICE-standard table by **selecting [Standard]**.
- During the following dialogue "save standard table" **select a library**, to which the table shall be saved (or create a new library by selecting [New library]). Here you can change the title of the table. [Next] takes you to the tab "Updating".
- **Define** the **type of update** (see below) and go on to the next tab.
- **Define reading and writing permission. Select** [Next].
- **Save** the table on the last tab**.**

If there is new data available for a table, you can run an update by selecting **"Update"** on the start window:

- **Highlight a library**, and select [>] to move it to the right window of the update-tool (or move se-veral libraries at once). Now select **[Compile tables]**.
- **Select a table** and click on **[Start update]** to run the update (Table header do not change during the update process).
- You can highlight **several tables** to update them all at once. If there is no new data available, it will be indicated.

Standard Tables: Types of Updating

Currently the system provides three general types of updating:

1. Update referring to "**one point in time**"
   This type replaces all data of the table (e.g. the table was generated for the year 2005) by the newest available data of the system (e.g. for the year 2006).

2. **Supplementation of a time series**
   According to the table structure the data in rows and in columns gets supplemented by more cur-rent data. By using this type of updating, the table grows in size.

3. **Displacement of a time series**
   According to the table structure new data gets implemented in rows and in columns, while old data gets removed (to a corresponding number). The table size does not change.

For all three general types you have to decide, whether you want to use annual data, or data for se-mesters.

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Standard Table Management

Select **"Table management"** on the start window to open the management-tool of the standard tables. You have various options

for libraries:
- create or delete libraries
- change label and descrption of libraries
- define reading and writing permission

for tables:
- change title
- copy and delete tables
- change type of update

ICE-Key: Generate Keylists

To get an overview of available keys: Select **"Keylists"** on the start window. Then select a format (PDF or RTF) to compile a report of all the available keys of the databank.

Definitions

The function definitions enables you (while using the flexible table generation) to read descriptions of characteristics and attributes. You can access the definitions through the **keyword list** or the **tab "ICE-Key"**. In both cases the procedure is the same:

- **Highlight the keyword**, whose definition you want to read
- **Right click** on the keyword
- Select **"definition of..."**
- The description gets displayed

Literature Research

The ICE system provides a keyword-based link to "IDS Hochschule", a literature research system that enables you to find literature related to the keywords. You gain access to the literature research by the **keywordlist**.

- **Highlight the keyword** for that you like to find literature
- Click on it again with the **right mouse button**
- Select **"Bibliography for..."**
- The **interface to "IDS Hochschule"** appears
- Select **"Find literature"** to open a list with literature suggestions of IDS

Authentication

Access to the system is only possible following a succesful login. When you get into a section with secure data content, you have to identify yourself (only once per session). To get access authorisation, please get in touch with a contact partner (see above).

On the start window select **"Users and groups"** to change your password.