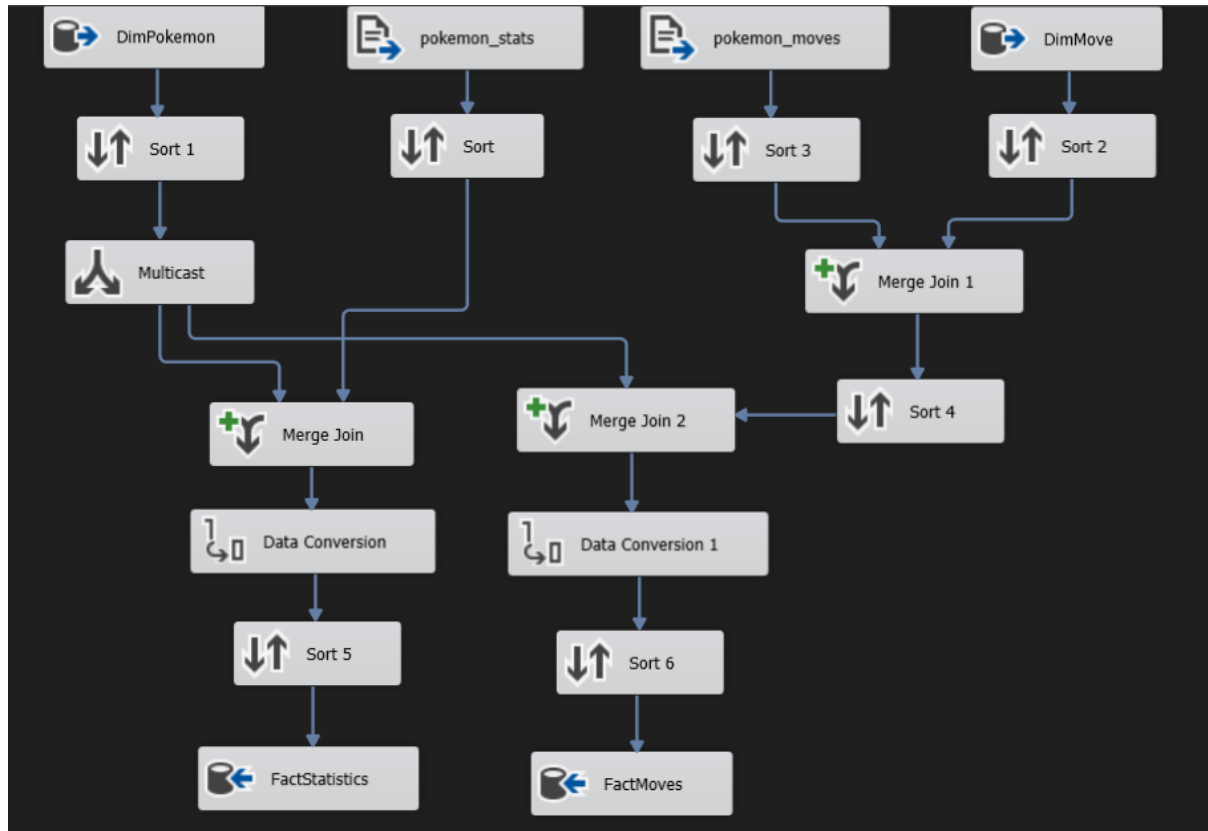


## Fact Tables Creating

### Aim of the process

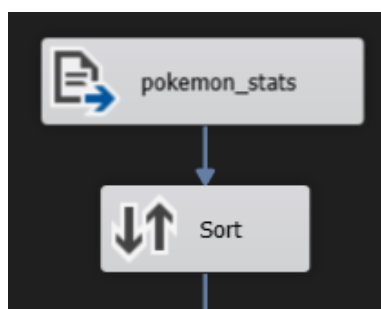
The transformation is done for creating Fact Tables (FactStatistics, FactMoves). The whole data flow at this stage is shown below:



### Description of the process

The data are obtained from Flat Files (gen9\_pokemon\_stats.csv and gen9\_pokemon\_moves.csv) and OLE DB sources. The data from the flat files are sorted by the date according to the order of the data it will be joined with later. Flat files source data contains the measures for the fact tables. The OLE DB source data consists of the dimension tables which are sorted by the pokemon name or move name data. OLE DB source data contains the surrogate keys which in this process are attached to the fact tables. These keys have the role of the foreign keys from the dimension tables and form together primary keys for the fact tables.

### **Flat files data sorting example:**





Available Input Columns

<input type="checkbox"/>	Name	Pass Thr...
<input checked="" type="checkbox"/>	Pokemon	<input type="checkbox"/>
<input type="checkbox"/>	HP	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Attack	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Defense	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Special Attack	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Special Defe...	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Speed	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Weakness-N...	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Weakness-Fire	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Weakness-W...	<input checked="" type="checkbox"/>

☐ Remove rows with duplicate sort values

```
graph TD; A[DimPokemon] --> B[Sort 1];
```

Sort Transformation Editor

Specify the columns to sort, and set their sort type and their sort order. All nonselected columns are copied unchanged.

Available Input Columns

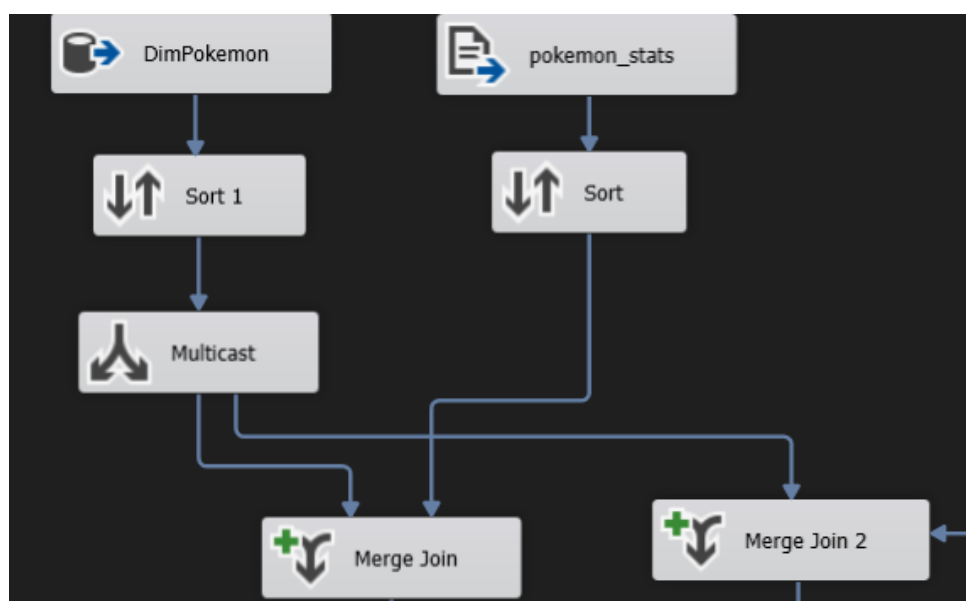
<input type="checkbox"/>	Name	Pass Thr...
<input type="checkbox"/>	pokemonSK	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	name	<input type="checkbox"/>
<input type="checkbox"/>	first_form	<input checked="" type="checkbox"/>
<input type="checkbox"/>	second_form	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ability_1	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ability_2	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ability_3	<input checked="" type="checkbox"/>

Input Column	Output Alias	Sort Type	Sort Order	Con
name	name	ascending	1	

☐ Remove rows with duplicate sort values

OK Cancel Help

The data from the OLE DB source is multicast to be Merge joined with the data from the Flat File source. The main goal of this process is to obtain the data with the surrogate keys from the dimension tables. **The example of the multicasting and joining is shown below:**



Merge Join Transformation Editor

Configure the properties used to join two sources of sorted data. Select the join type and then specify the columns to be used as the join key. Join keys must be used in the order specified by the sort-key position of the column.

Join type: Inner join Swap Inputs

Multicast

<input checked="" type="checkbox"/>	Name	Ord...	Join...
<input checked="" type="checkbox"/>	pokemonSK	0	<input type="checkbox"/>
<input type="checkbox"/>	name	1	<input checked="" type="checkbox"/>
<input type="checkbox"/>	first_form	0	<input type="checkbox"/>
<input type="checkbox"/>	second_form	0	<input type="checkbox"/>
<input type="checkbox"/>	ability_1	0	<input type="checkbox"/>
<input type="checkbox"/>	ability_2	0	<input type="checkbox"/>
<input type="checkbox"/>	ability_3	0	<input type="checkbox"/>

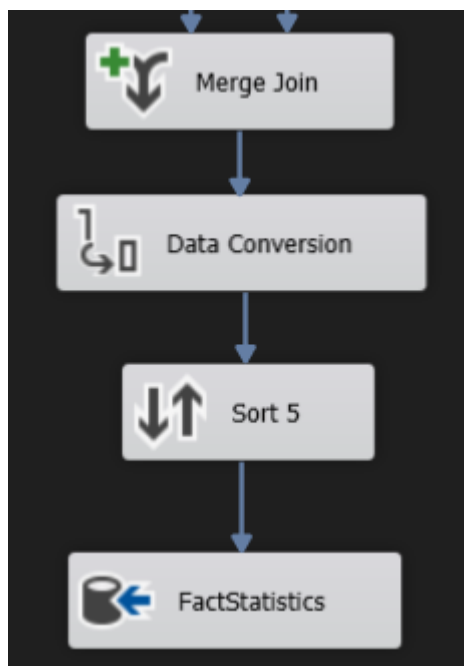
Sort

<input checked="" type="checkbox"/>	Name	Ord...	Join...
<input type="checkbox"/>	Pokemon	1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	HP	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Attack	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Defense	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Special Attack	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Special Defe...	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Speed	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Weakness-N...	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Weakness-Fire	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Weakness-W...	0	<input type="checkbox"/>

Input	Input Column	Output Alias
Multicast	pokemonSK	pokemonSK
Sort	HP	HP
Sort	Attack	Attack
Sort	Defense	Defense
Sort	Special Attack	Special Attack
Sort	Special Defense	Special Defense
Sort	Speed	Speed
Sort	Weakness-Normal	Weakness-Normal

OK Cancel Help

At the last stage of the fact tables creation process the final data conversion and data sorting takes place and the data are loaded into appropriate database tables (created previously using SQL scripts):



Configure the properties used to convert the data type of an input column to a different data type. Depending on the data type to which the column is converted, set the length, precision, scale, and code page of the column.

Available Input Columns

☒ Name  
☐ pokemonSK  
☒ HP  
☒ Attack  
☒ Defense  
☒ Special Attack  
☒ Special Defense

Input Column	Output Alias	Data Type	Length	Precision	Scale	Code Pa
HP	HP_converted	four-byte unsigned int...				
Attack	Attack_converted	four-byte unsigned int...				
Defense	Defense_converted	four-byte unsigned int...				
Special Attack	Special Attack_conv...	four-byte unsigned int...				
Special Defense	Special Defense_con...	four-byte unsigned int...				
Speed	Speed_converted	four-byte unsigned int...				
Weakness-Normal	Weakness-Normal_c...	float [DT_R4]				
Weakness-Fire	Weakness-Fire_conv...	float [DT_R4]				
Weakness-Water	Weakness-Water_co...	float [DT_R4]				
Weakness-Electric	Weakness-Electric_c...	float [DT_R4]				

Configure Error Output... OK Cancel Help