

Úvod do SQL

Hodina č. 5

Osnova

- Export/Import
- GROUP BY

1. Jaký byl nejvyšší příspěvek během roku?
2. Kolik bylo celkem příspěvků z webu během celého roku?
3. Jaký byl průměrný víkendový příspěvek?
4. Jaký byla suma příspěvků v první půlce roku? A v druhé?

Řešení:

1. `SELECT MAX(castka) as "Nejvyšší příspěvek" FROM fund`
2. `SELECT COUNT(*) as "Počet příspěvků" FROM fund WHERE zdroj = "web"`
3. `SELECT AVG(castka) as "Prumerny prispevek" FROM fund WHERE strftime("%w", datum) IN ("0", "6")` *nebo třeba* `SELECT AVG(castka) as "Prumerny prispevek" FROM fund WHERE strftime("%w", datum) = "0" OR strftime("%w", datum) = "6"`

Poznámka: týden začíná od neděle a dny se číslují od nuly, čili 0 je neděle a 6 sobota, viz https://www.sqlite.org/lang_datefunc.html

4. `SELECT SUM(castka) as "Suma za prvni pulku" FROM fund WHERE datum < "2013-07-01", SELECT SUM(castka) as "Suma za druhou pulku" FROM fund WHERE datum >= "2013-07-01"`

Poznámka: vycházím z předpokladu, že v databázi máme data jen za 2013

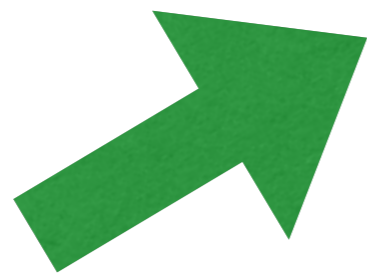
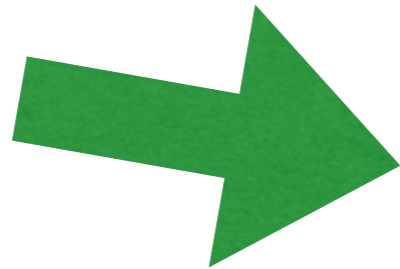
IMPORT/EXPORT



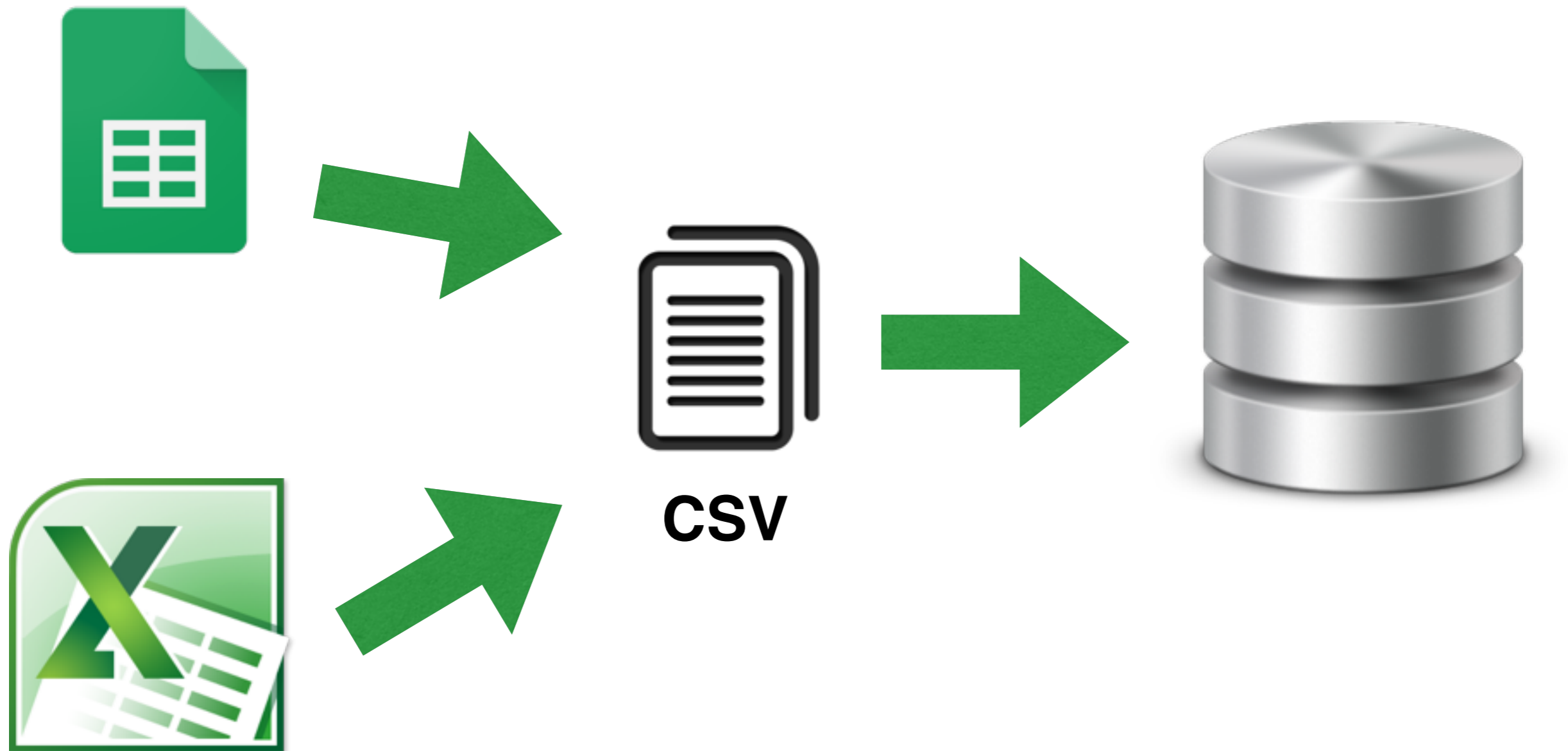
IMPORT/EXPORT



IMPORT/EXPORT



IMPORT/EXPORT

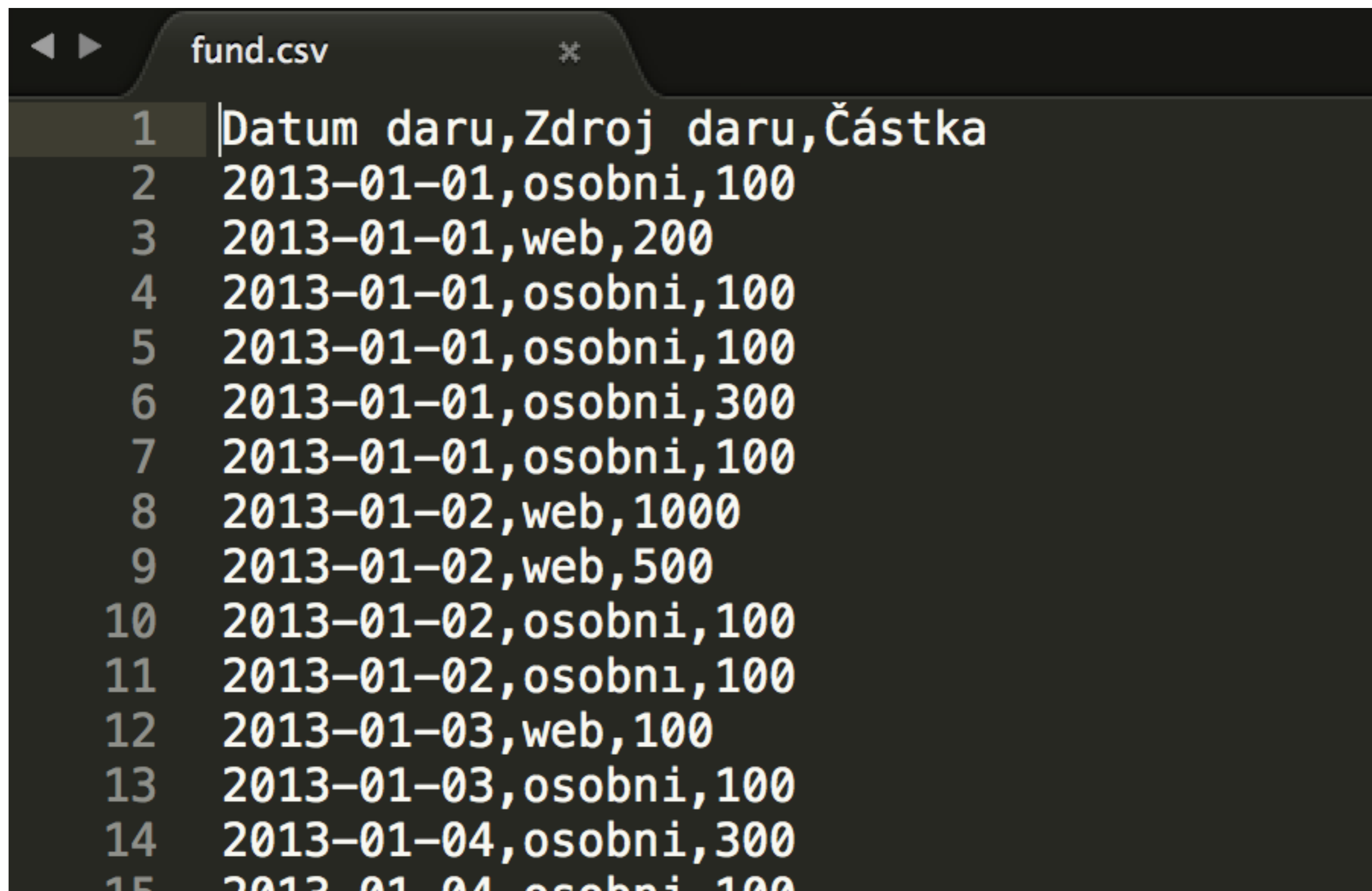


CSV

CSV

Comma-separated values

CSV



A screenshot of a text editor window titled 'fund.csv'. The editor displays a CSV file with 15 rows of data. The first row is a header row with three columns: 'Datum daru', 'Zdroj daru', and 'Částka'. The subsequent rows contain numerical data for each column, separated by commas. The data shows various dates in 2013, sources of donations (osobni, web), and corresponding amounts.

Line	Datum daru	Zdroj daru	Částka
1			
2	2013-01-01	osobni	100
3	2013-01-01	web	200
4	2013-01-01	osobni	100
5	2013-01-01	osobni	100
6	2013-01-01	osobni	300
7	2013-01-01	osobni	100
8	2013-01-02	web	1000
9	2013-01-02	web	500
10	2013-01-02	osobni	100
11	2013-01-02	osobni	100
12	2013-01-03	web	100
13	2013-01-03	osobni	100
14	2013-01-04	osobni	300
15	2013-01-04	osobni	100

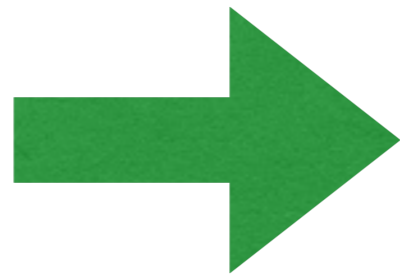
IMPORT/EXPORT

<http://fund-gdoc.jdem.cz/>

IMPORT/EXPORT

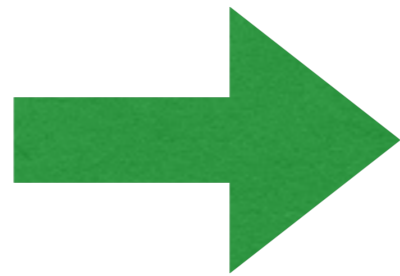
<http://fund-xls.jdem.cz/>

IMPORT/EXPORT

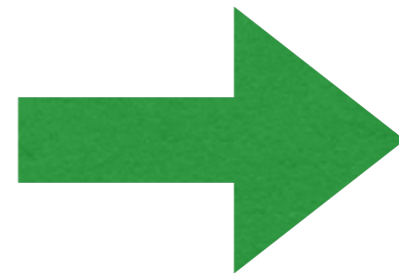


CSV

IMPORT/EXPORT



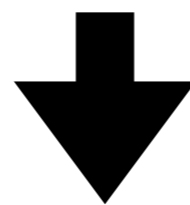
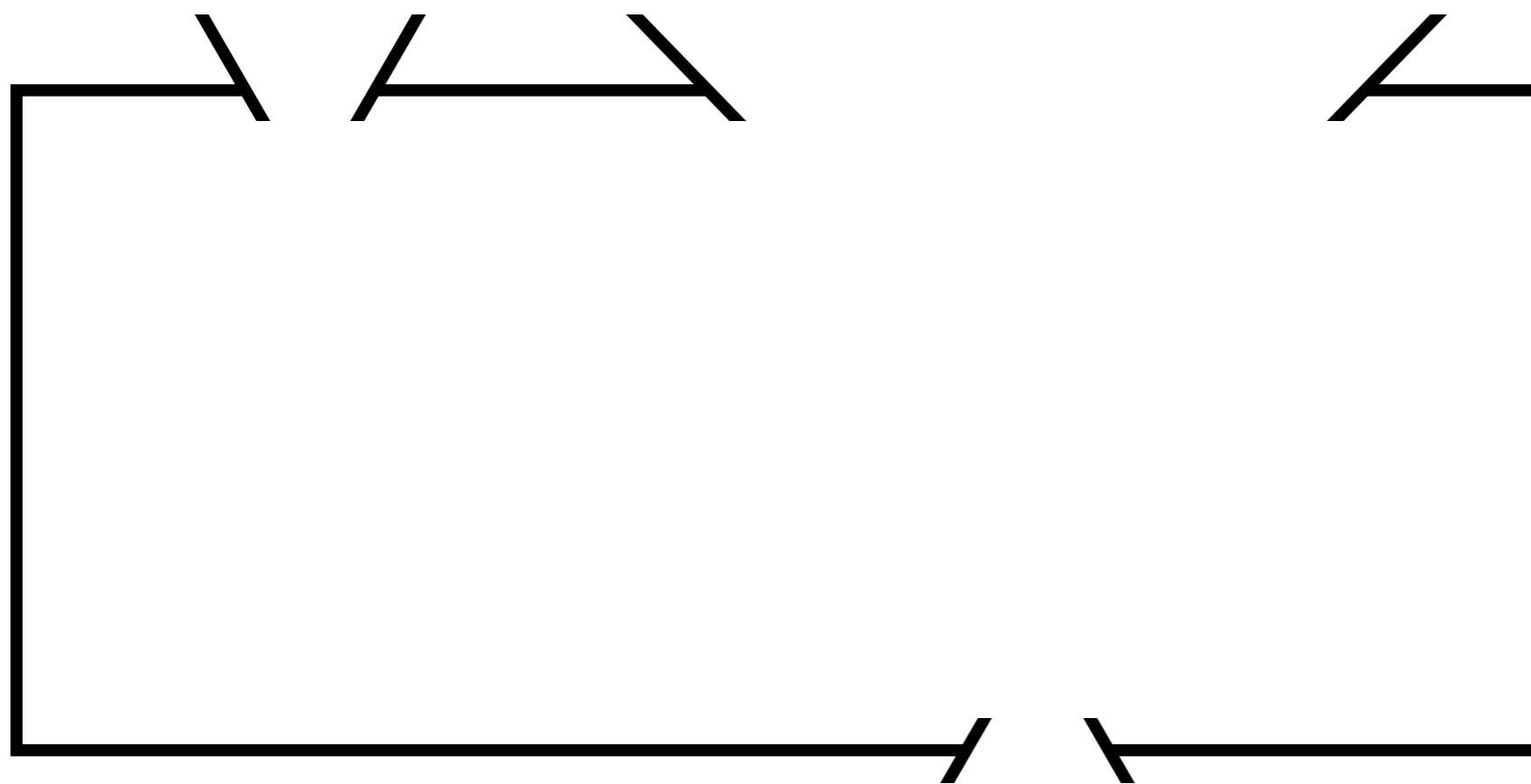
CSV



DB pro dnešní den

<http://fund2013.jdem.cz/>

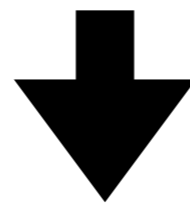
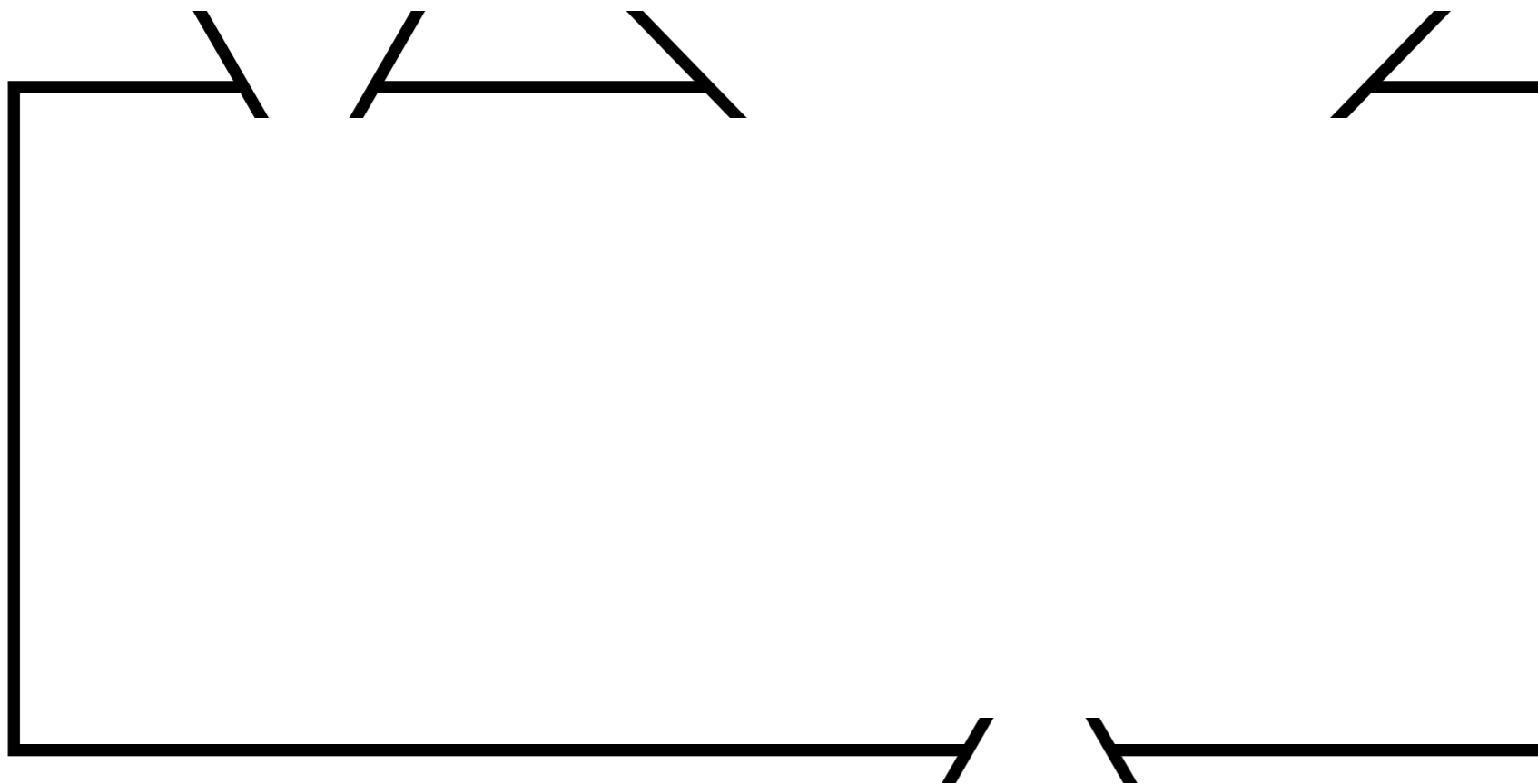
Agregační funkce



Číslo/řetězec

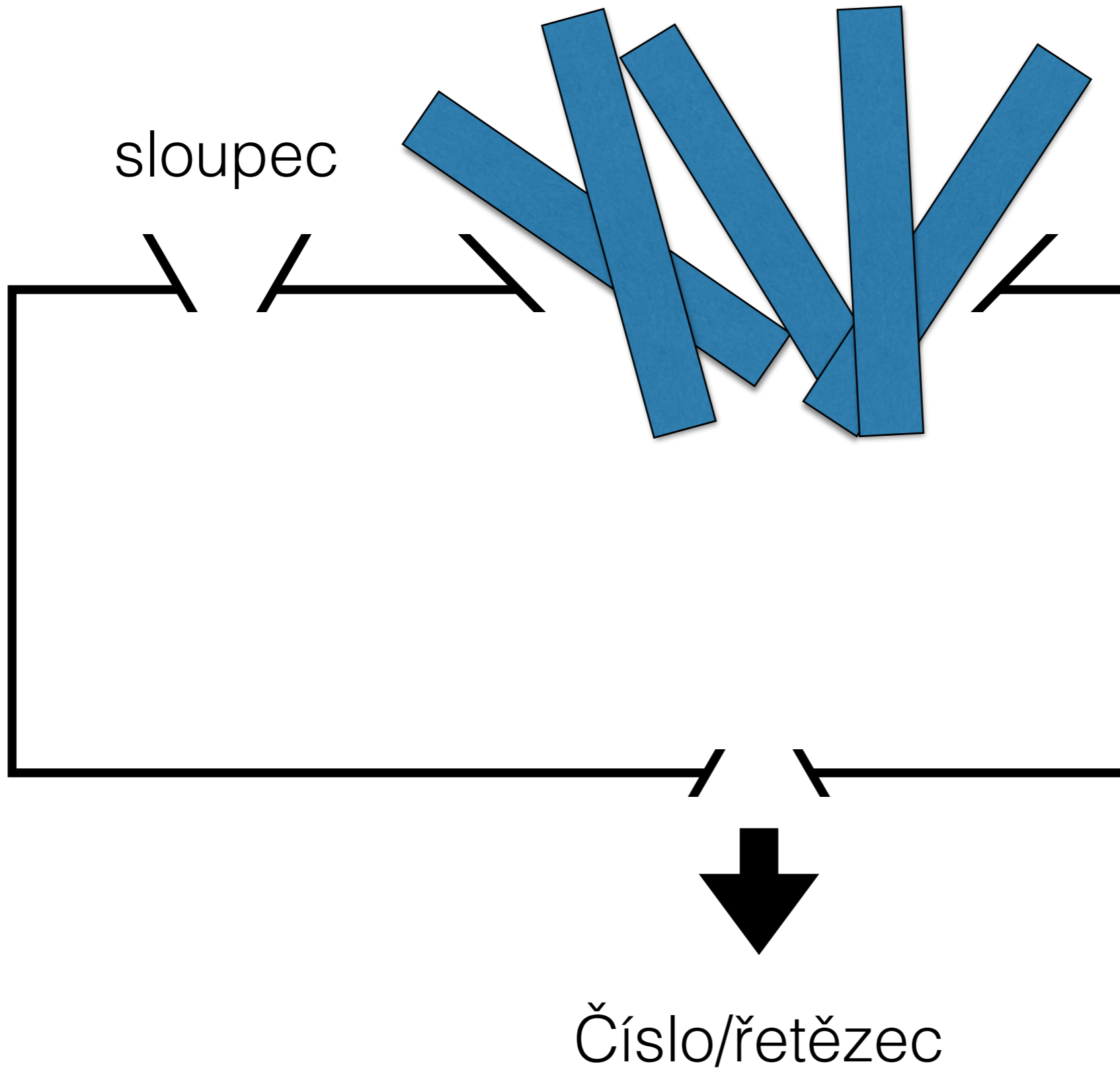
Agregační funkce

sloupec



Číslo/řetězec

Agregační funkce

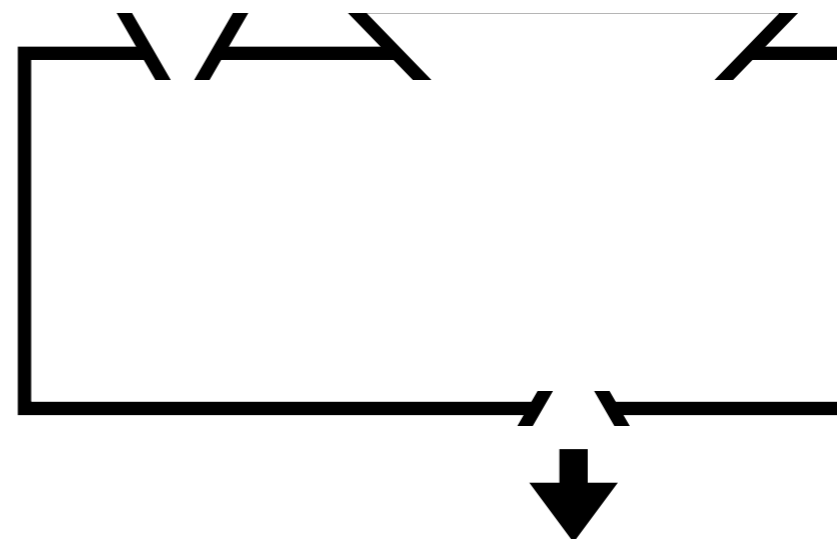
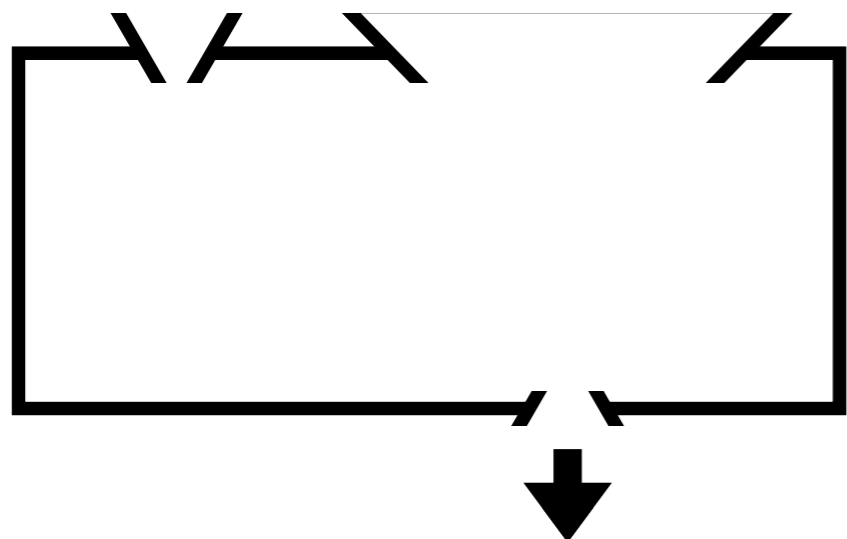
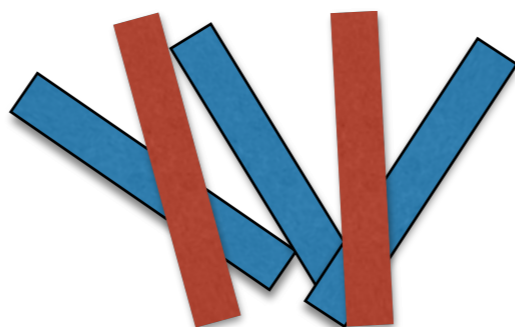


Opakování

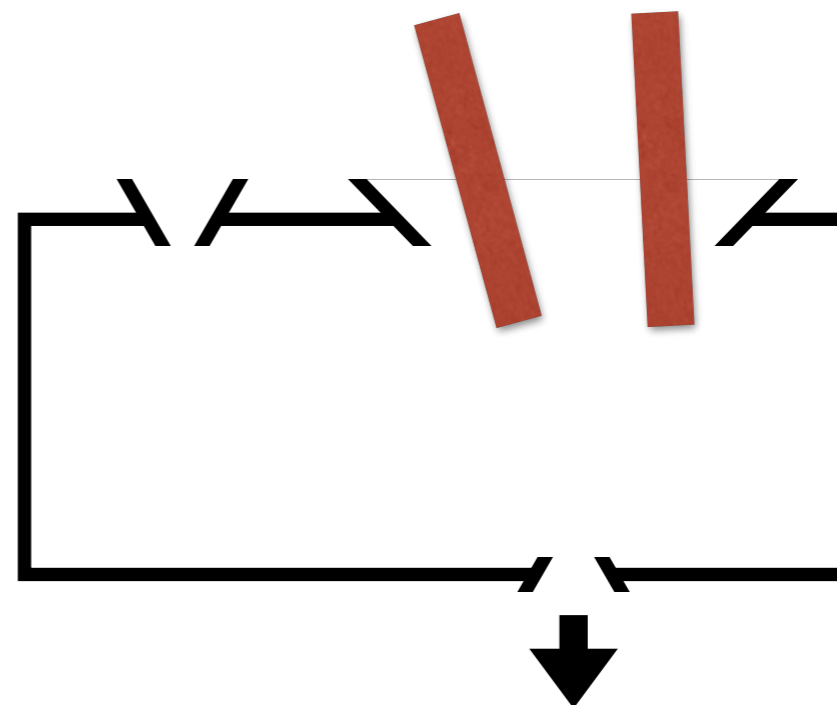
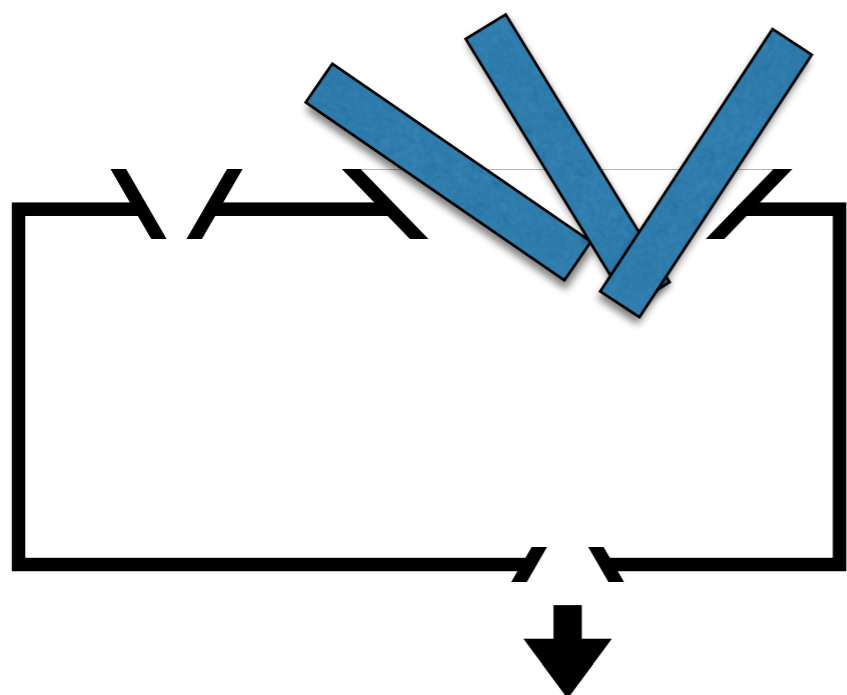
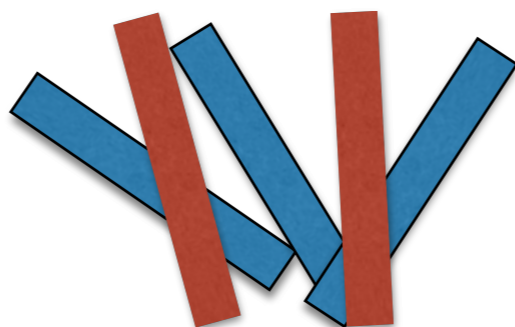
Průměrný příspěvek z webu?

```
SELECT AVG(castka) FROM fund WHERE zdroj = "web"
```

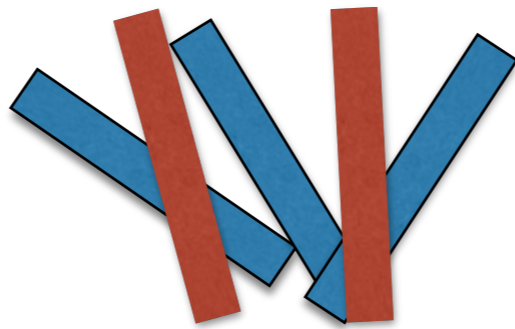
Agregační funkce



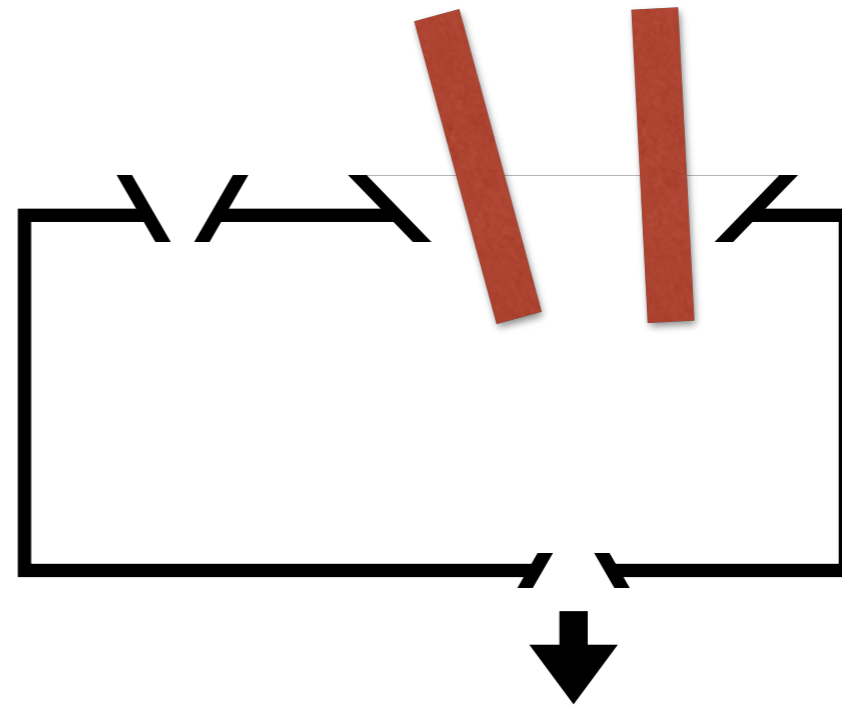
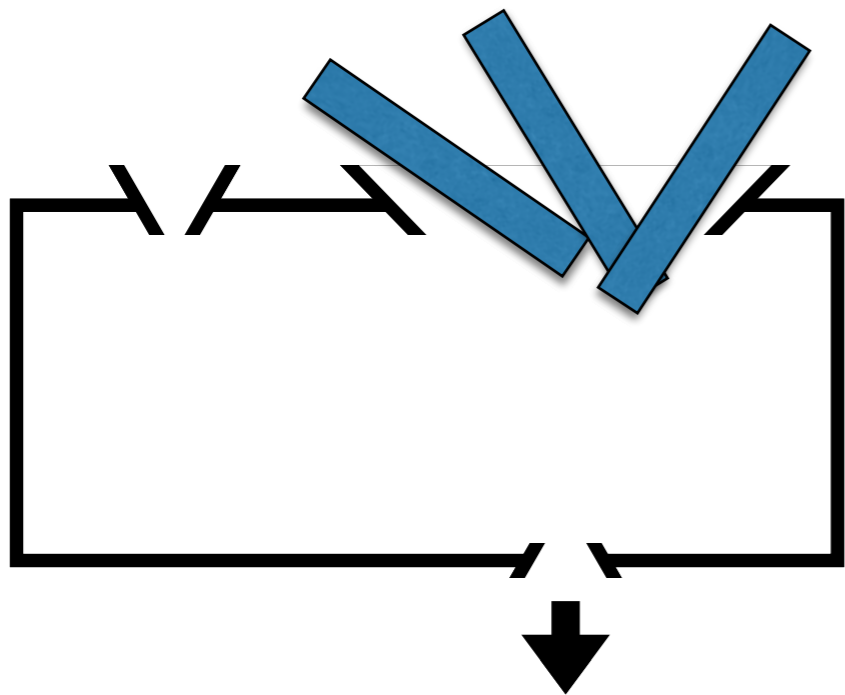
Agregační funkce

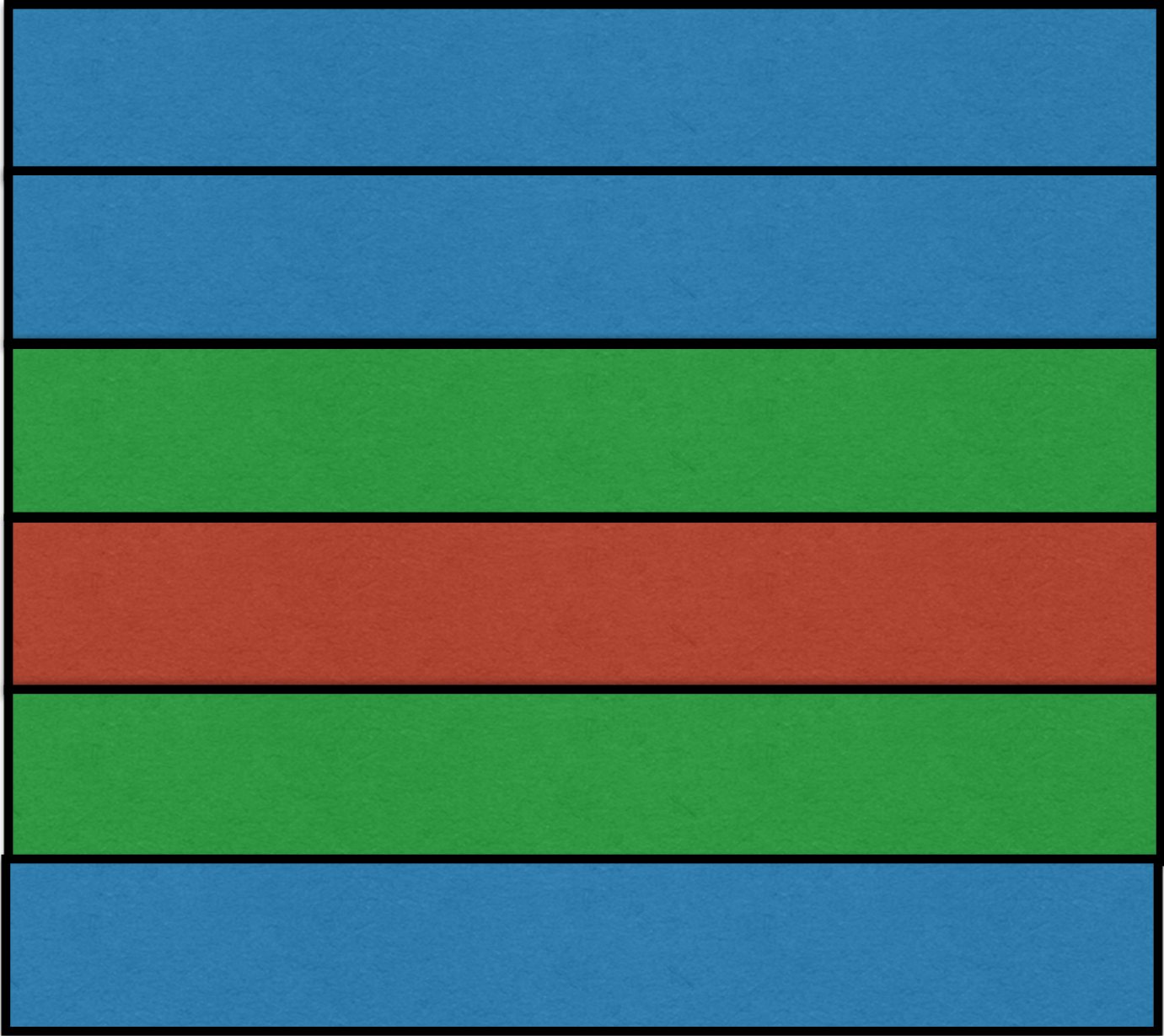


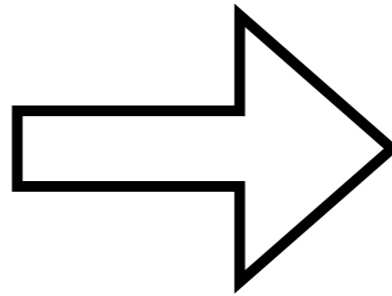
Agregační funkce



GROUP BY color



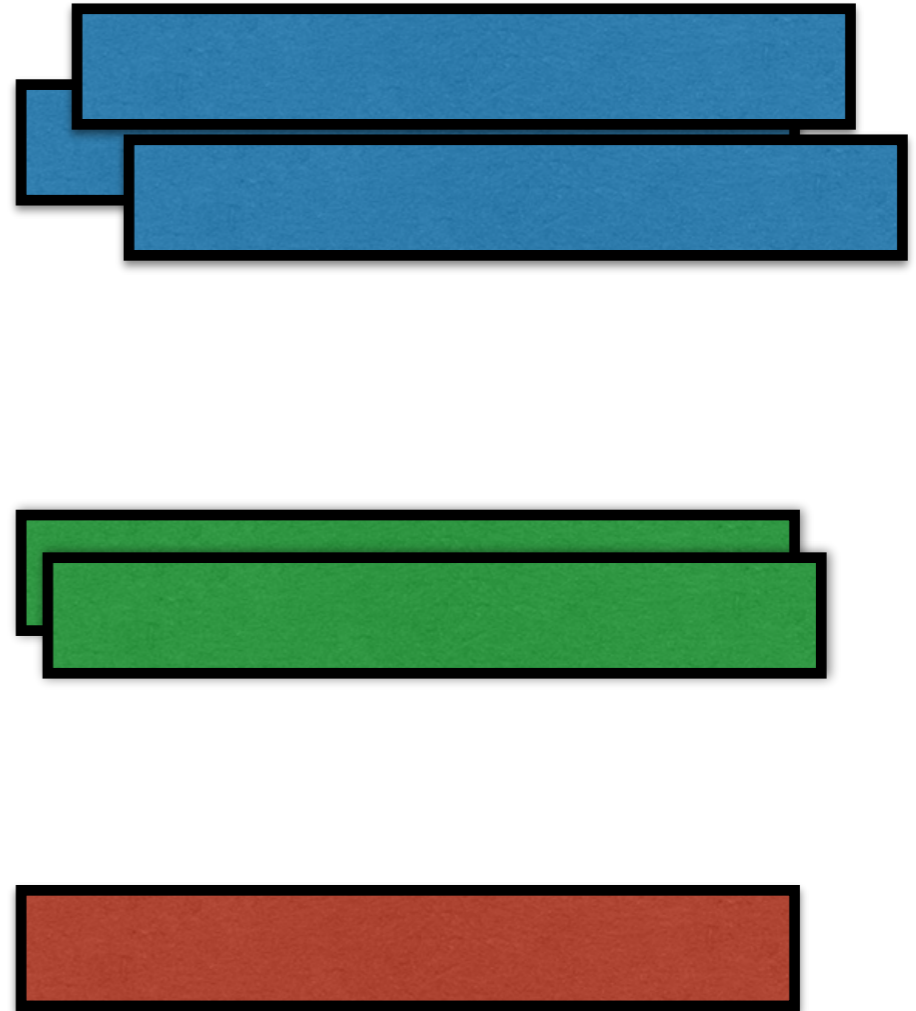
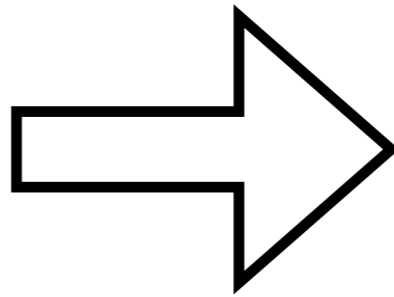
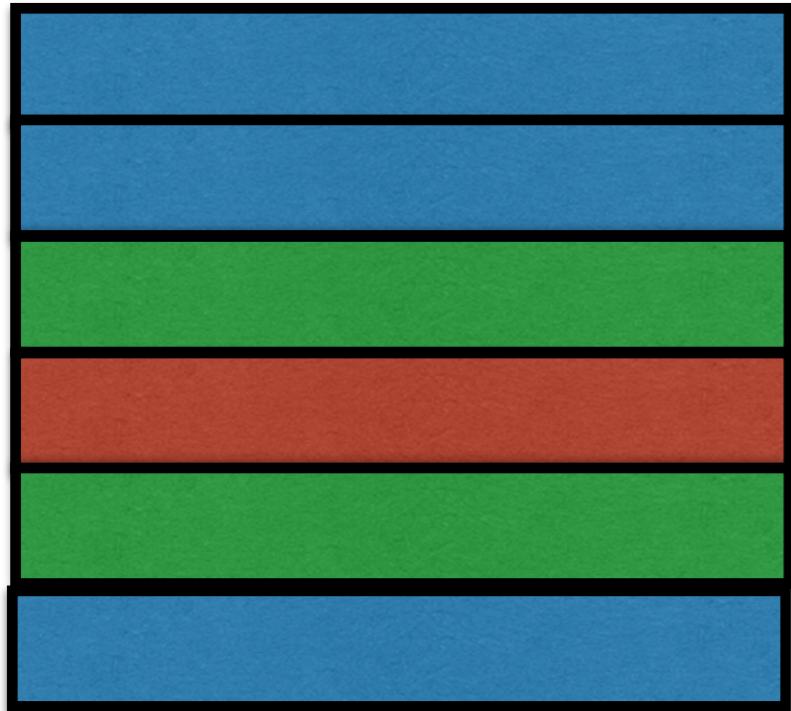




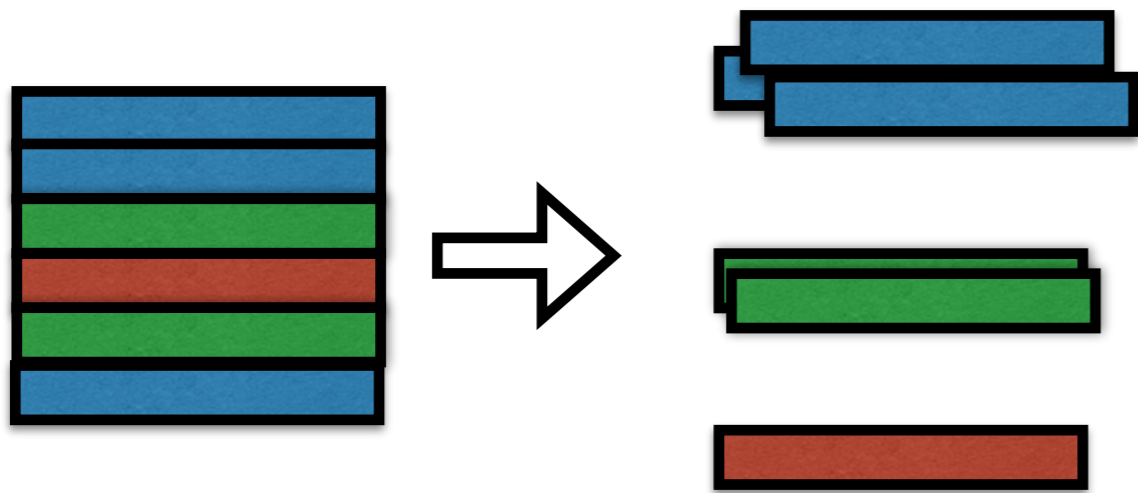
Agregace

Počet, průměr, součet...

GROUP BY

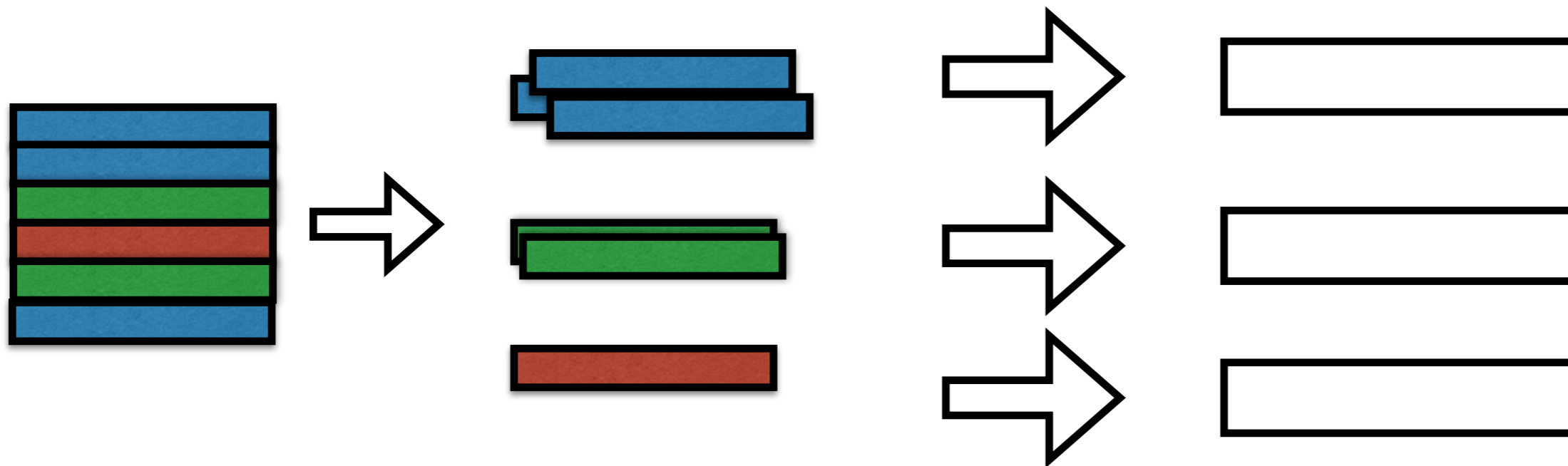


GROUP BY + agregace



GROUP BY color

GROUP BY + agregace



agregační funkce

Průměrný příspěvek dle typu?

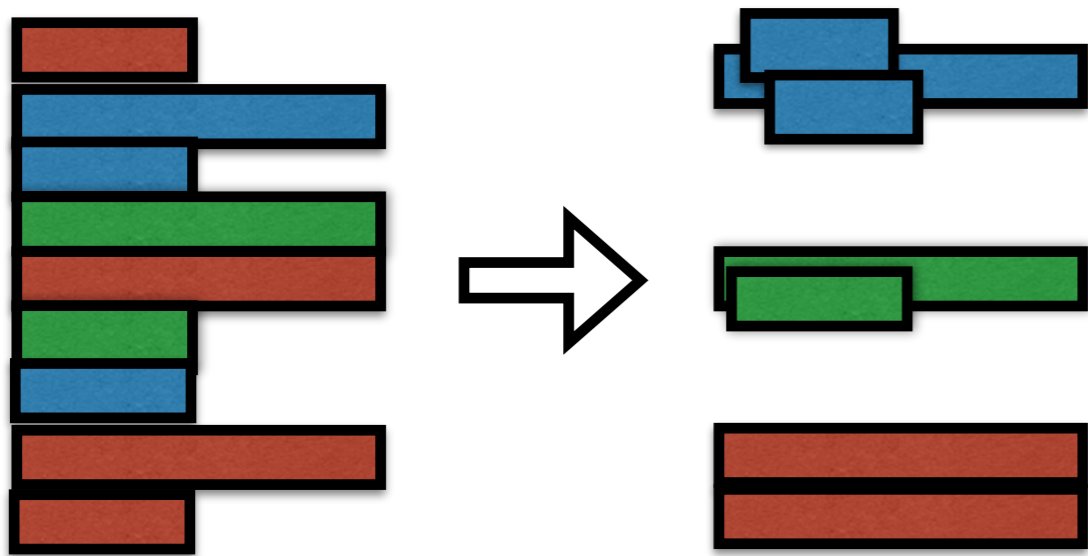
```
SELECT AVG(castka) FROM fund GROUP BY zdroj
```

Počet příspěvů a suma dle typu?

```
SELECT SUM(castka), COUNT(*) FROM fund GROUP BY  
zdroj
```

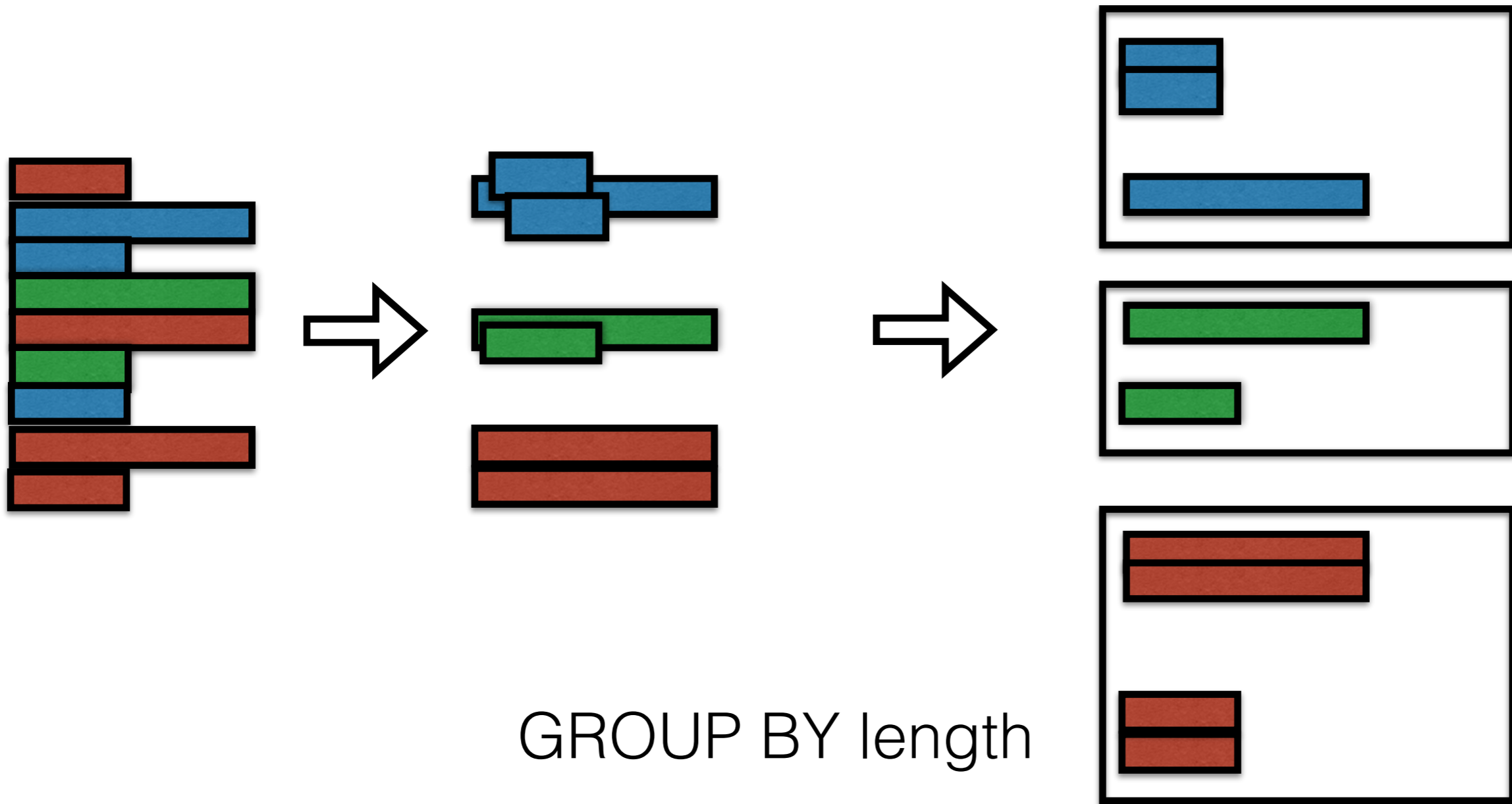
<http://muni-jdem.jdem.cz/>

dvojitý GROUP BY



GROUP BY color

dvojitý GROUP BY



Počet lidí, které mají jednotlivé fakulty v jednotlivých budovách

```
SELECT fakulta, budova, SUM(pocet_lidi)  
FROM fakulty GROUP BY fakulta, budova
```