

# **“Databázové systémy”**

Hodina č. 5

# Osnova

- Export/Import
- GROUP BY

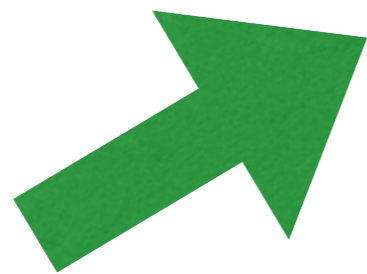
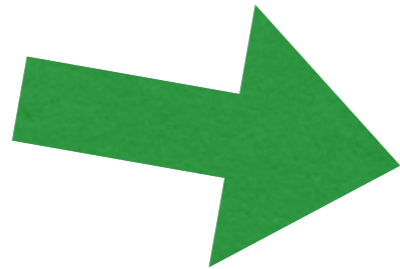
# IMPORT/EXPORT



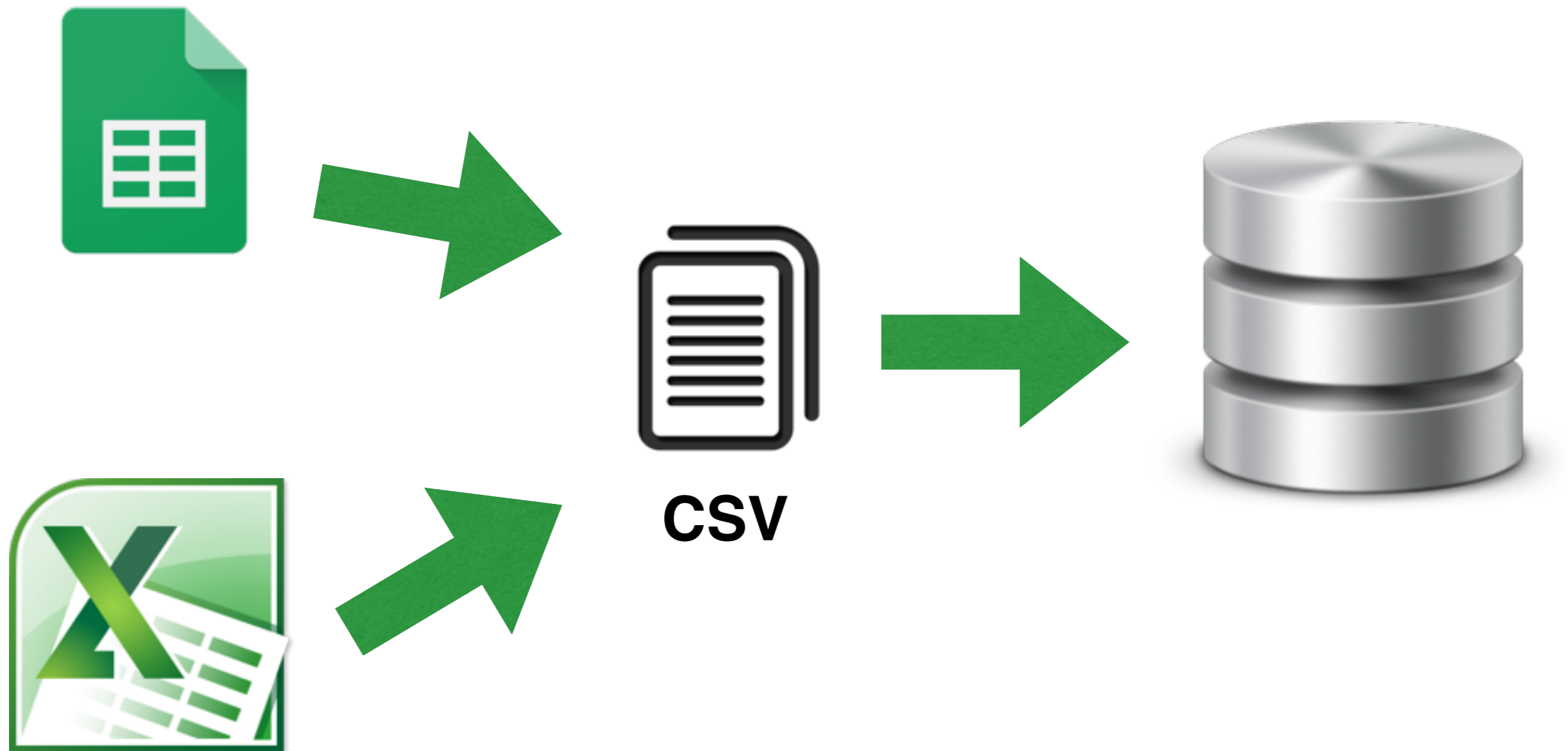
# IMPORT/EXPORT



# IMPORT/EXPORT



# IMPORT/EXPORT



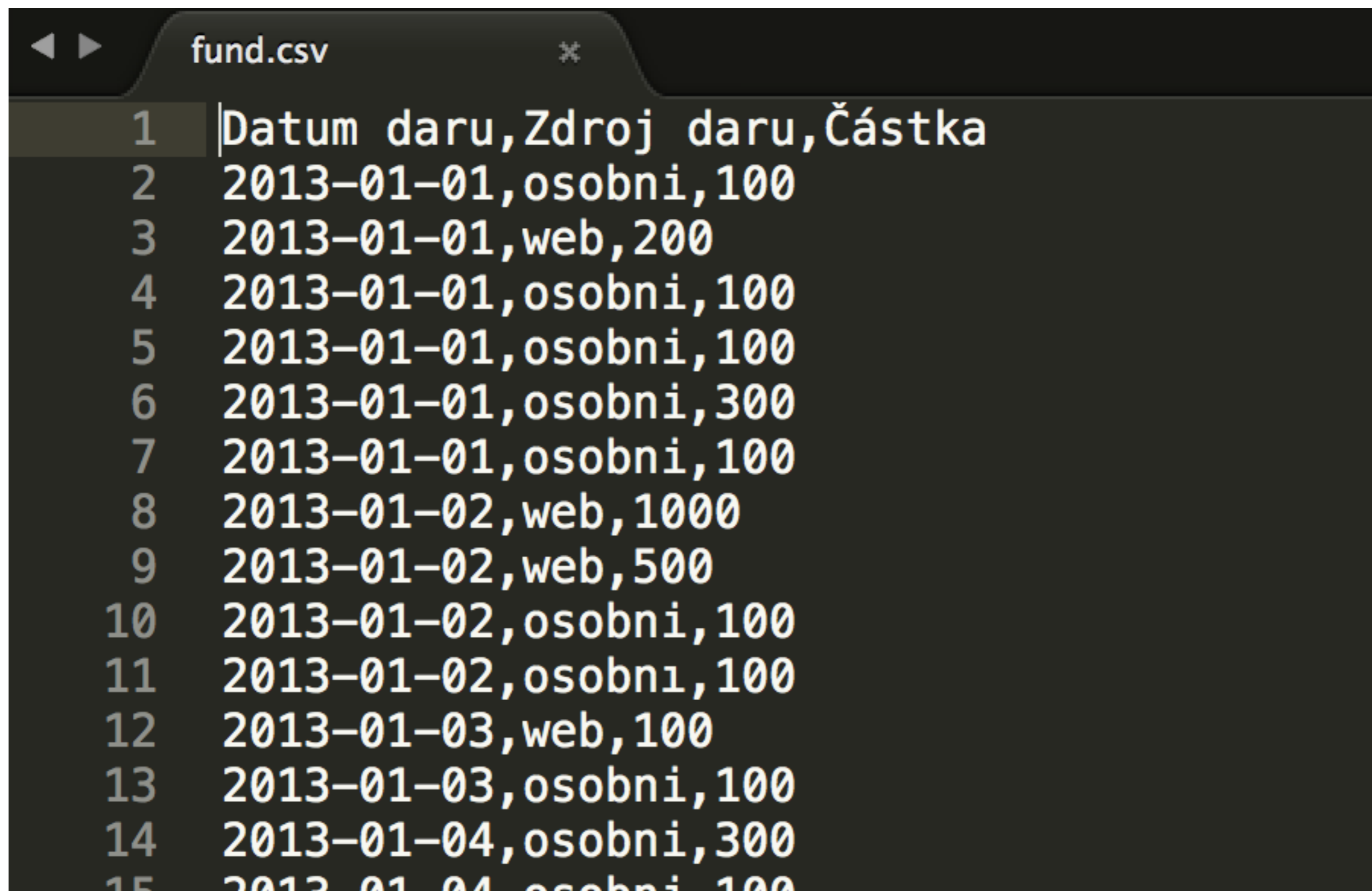
**CSV**

# **CSV**

Comma-separated values



# CSV



The image shows a text editor window with a dark background. The title bar at the top reads "fund.csv" and includes navigation arrows and a close button. The main area contains 15 lines of text, each representing a row in a CSV file. The first line is a header row with three columns: "Datum daru", "Zdroj daru", and "Částka". The subsequent 14 lines contain data rows with values for each column, separated by commas. The data includes dates from 2013-01-01 to 2013-01-04, sources like "osobni" and "web", and amounts ranging from 100 to 1000.

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

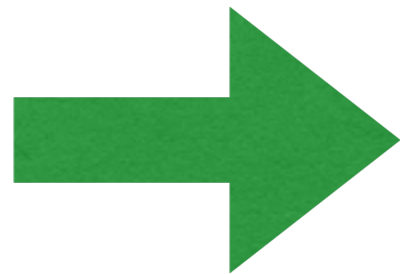
# IMPORT/EXPORT

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

# IMPORT/EXPORT

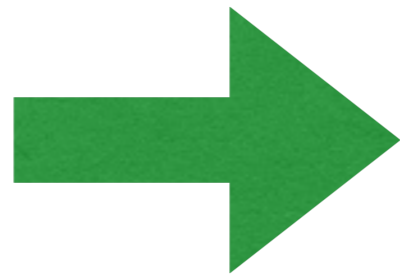
<http://fund-xls.jdem.cz/>

# IMPORT/EXPORT

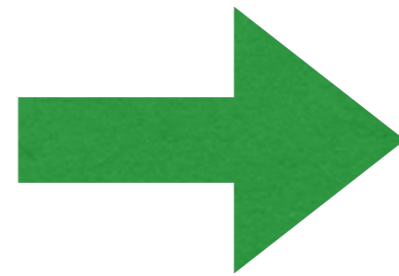


**CSV**

# IMPORT/EXPORT



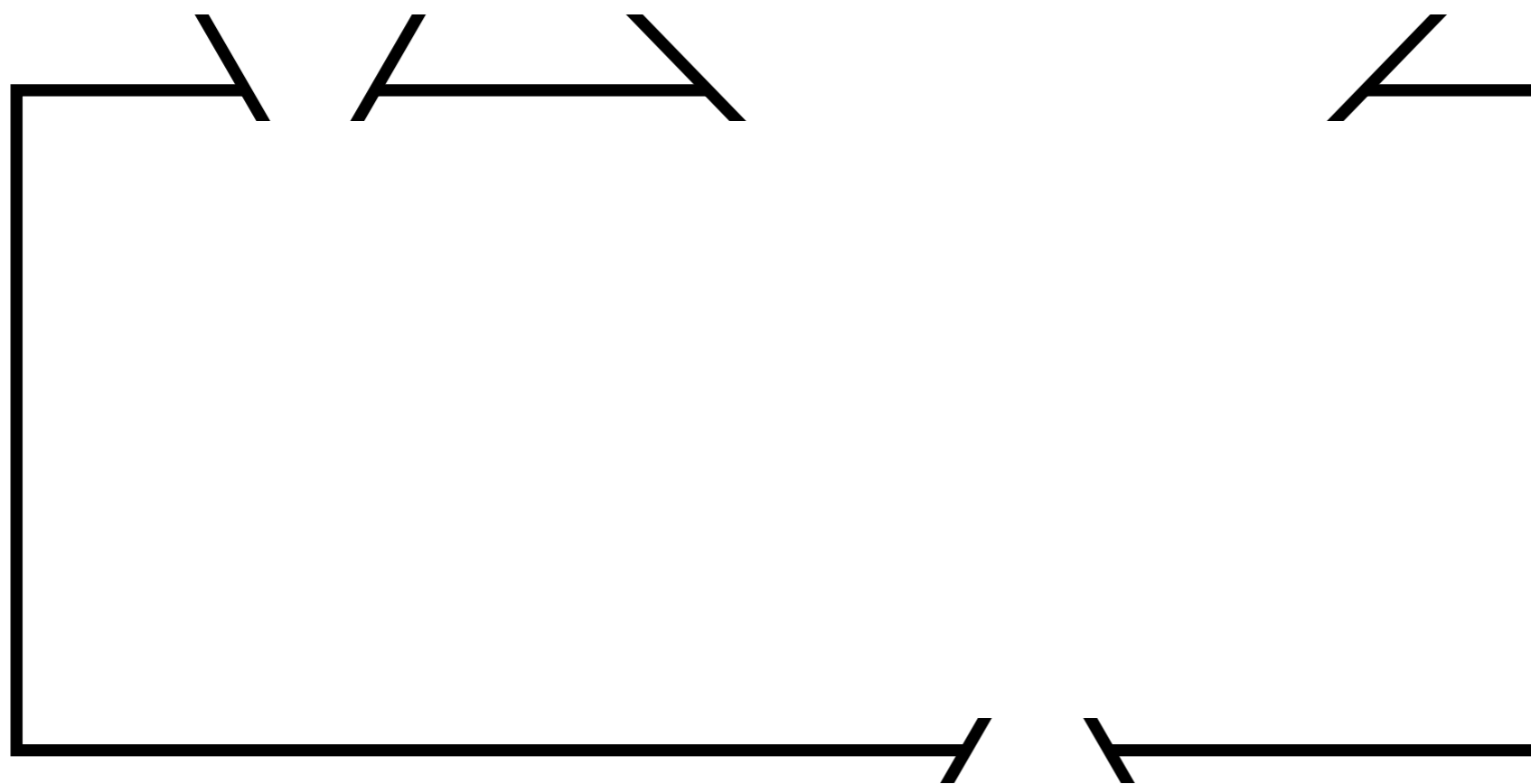
**CSV**



# **DB pro dnešní den**

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

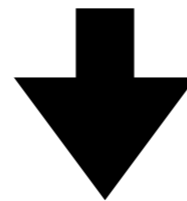
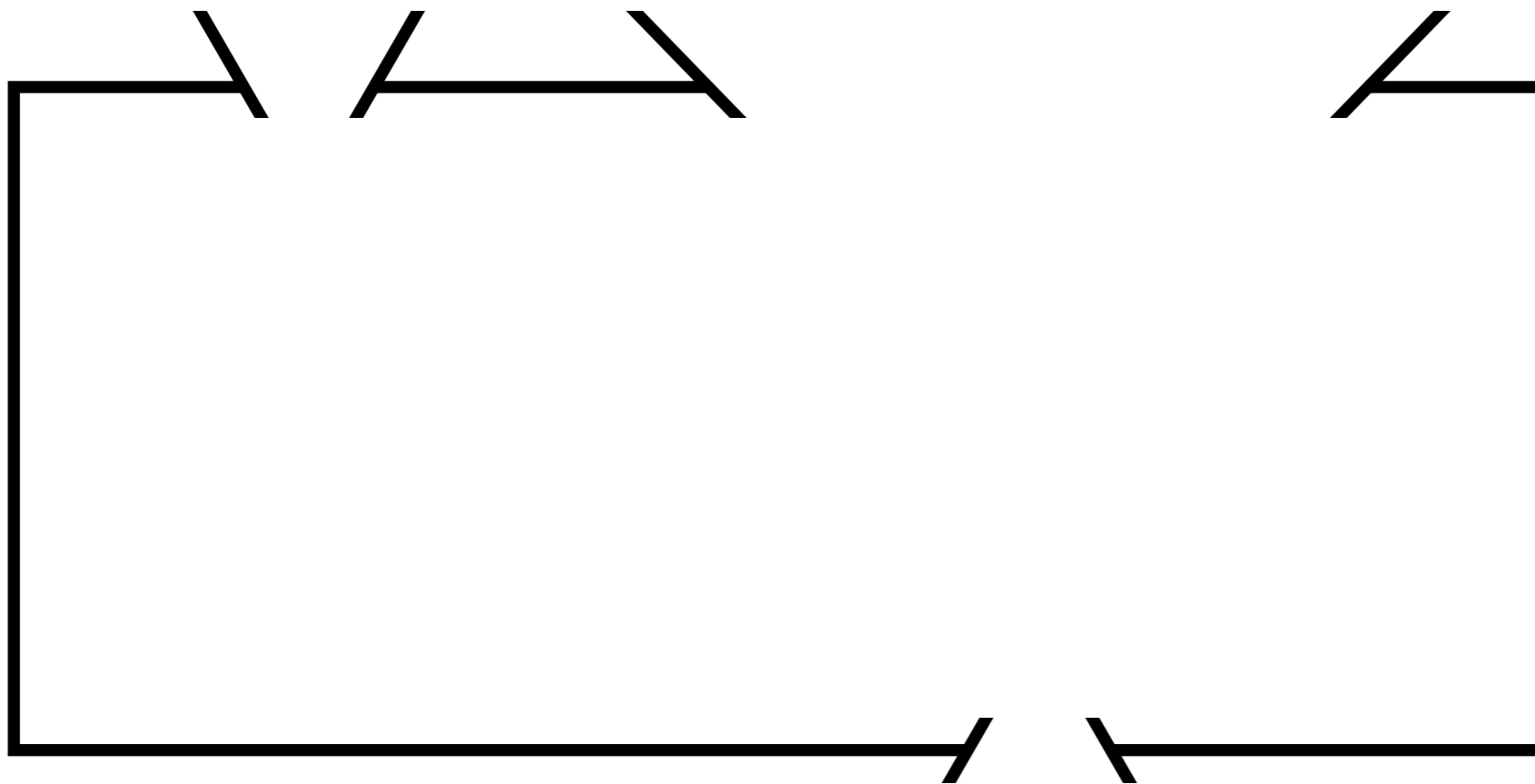
# Agregační funkce



Číslo/řetězec

# Agregační funkce

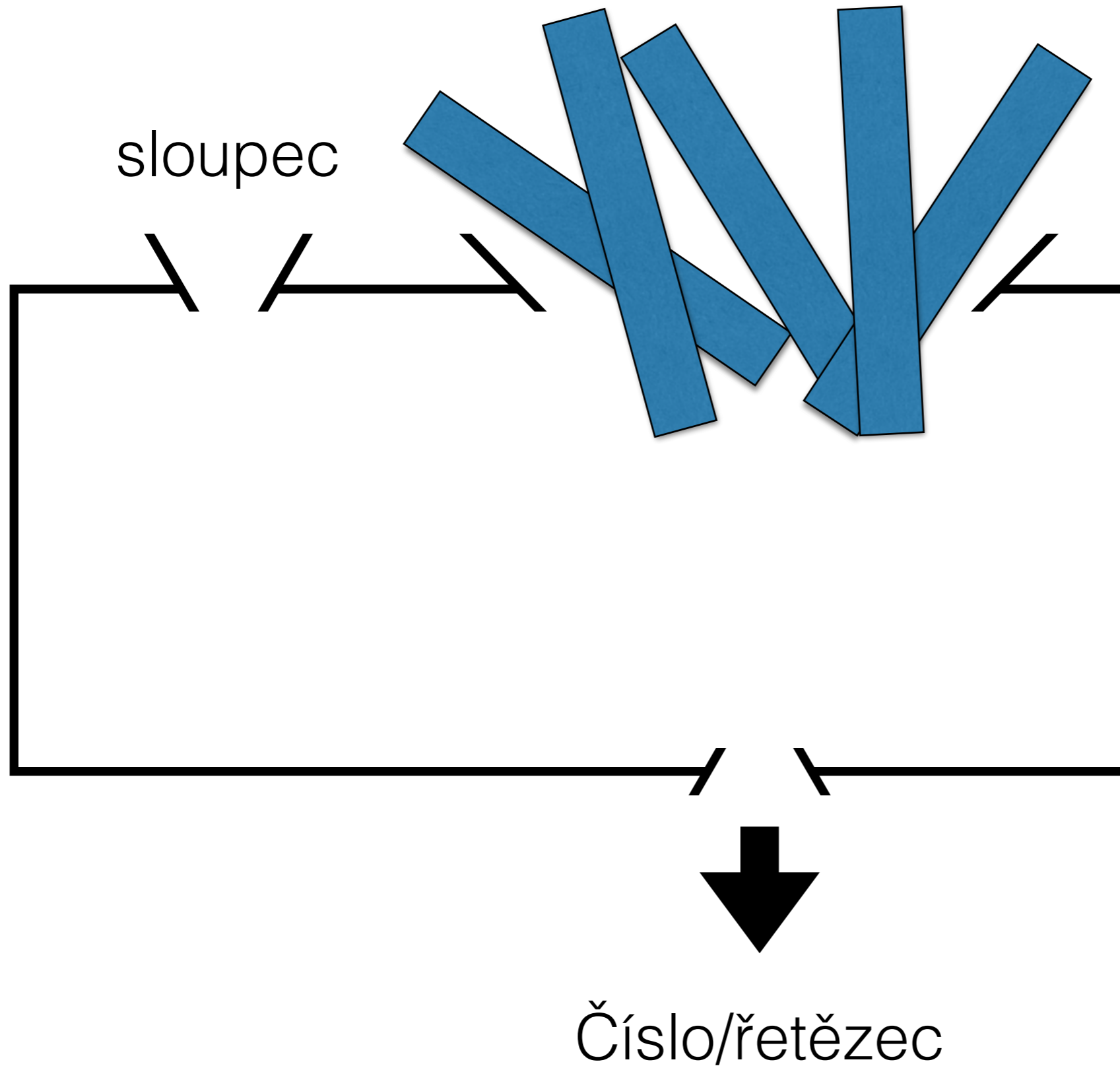
sloupec



Číslo/řetězec



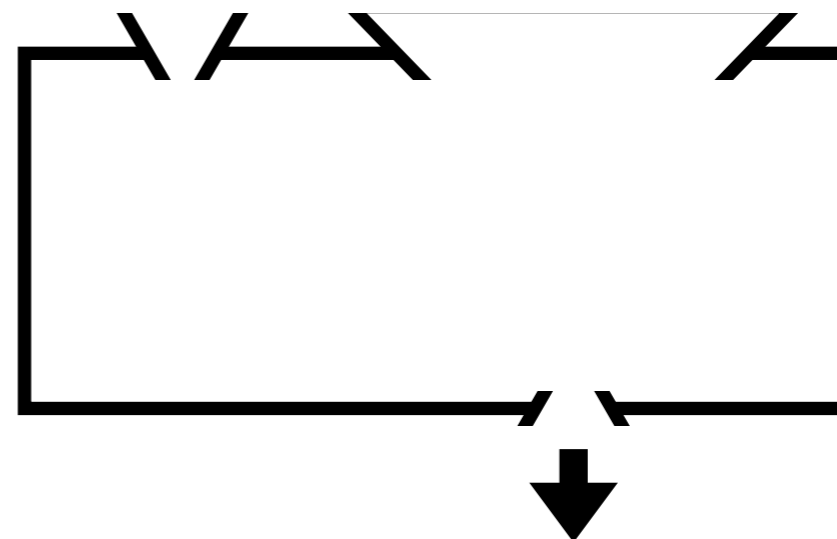
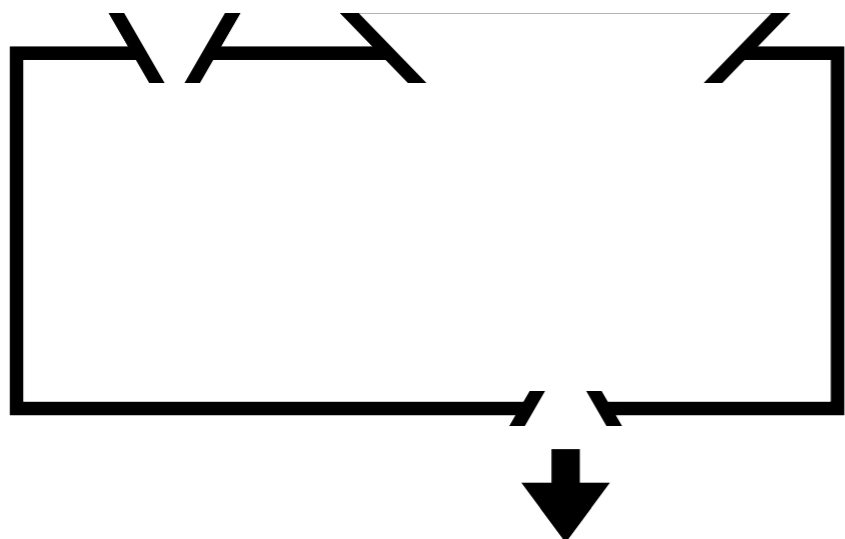
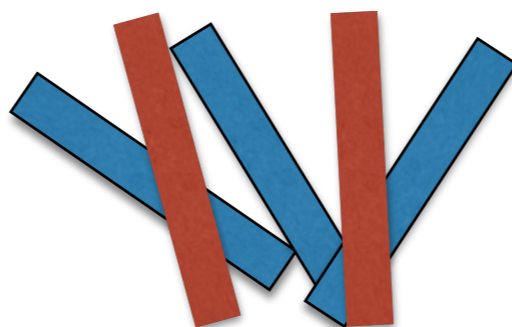
# Agregační funkce



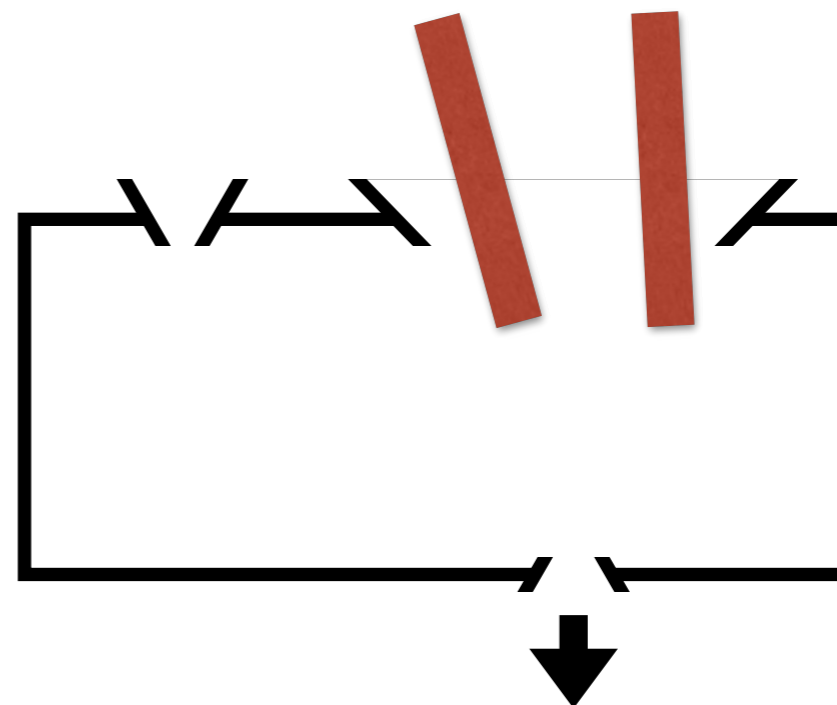
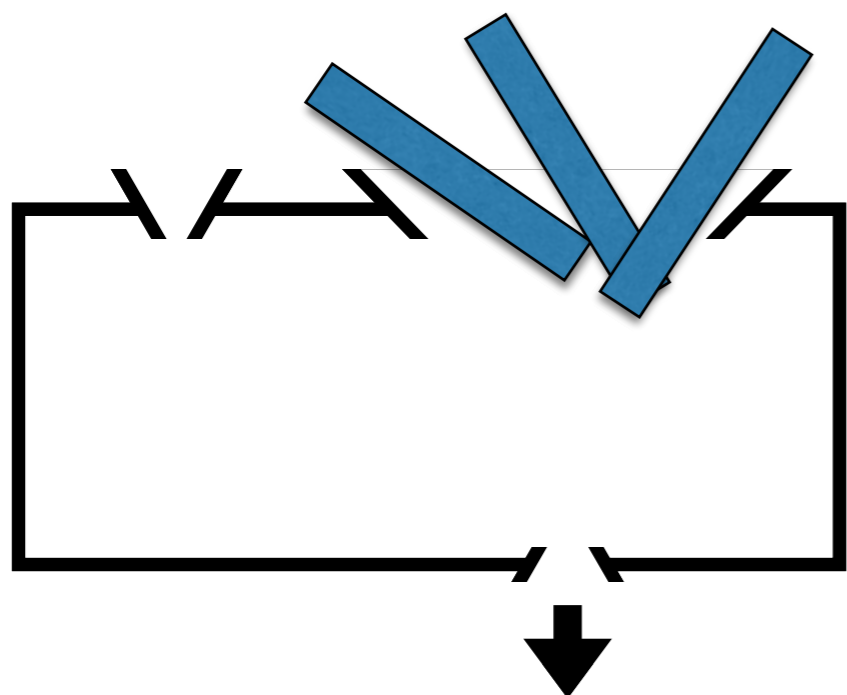
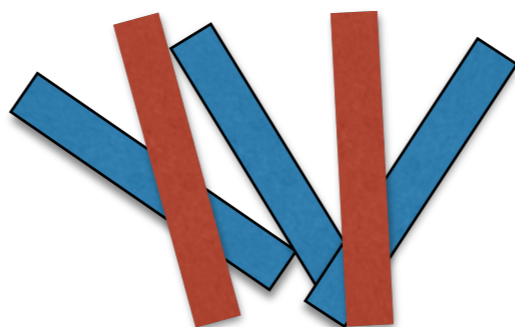
# Opakování

Průměrný příspěvek z webu?

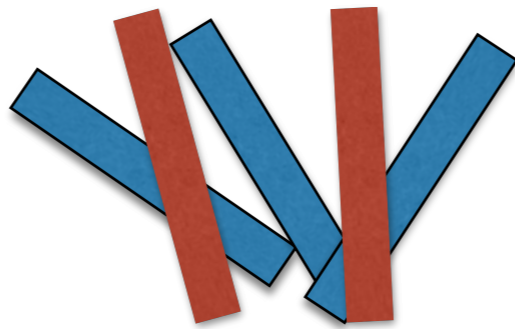
# Agregační funkce



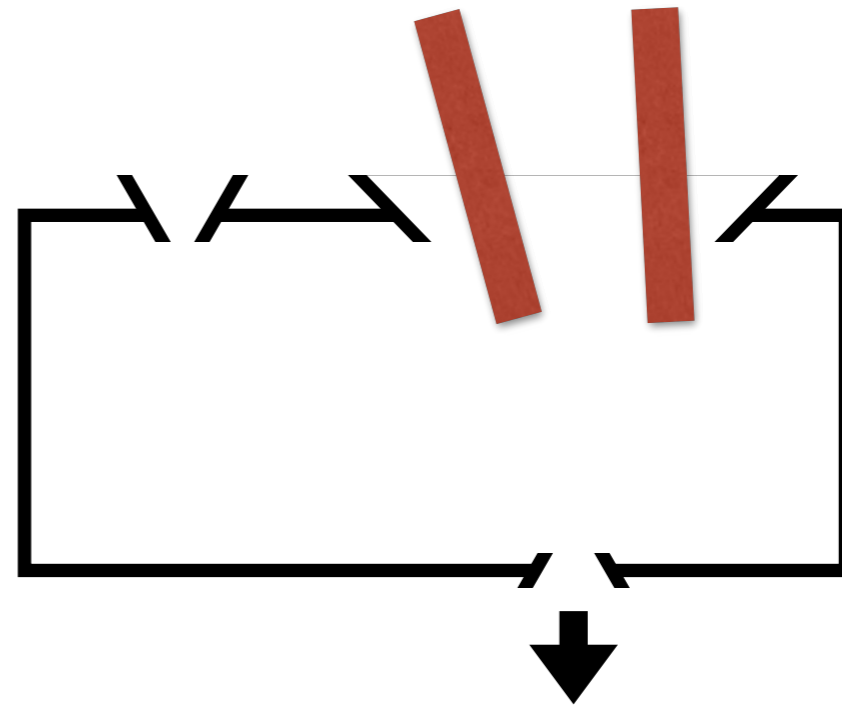
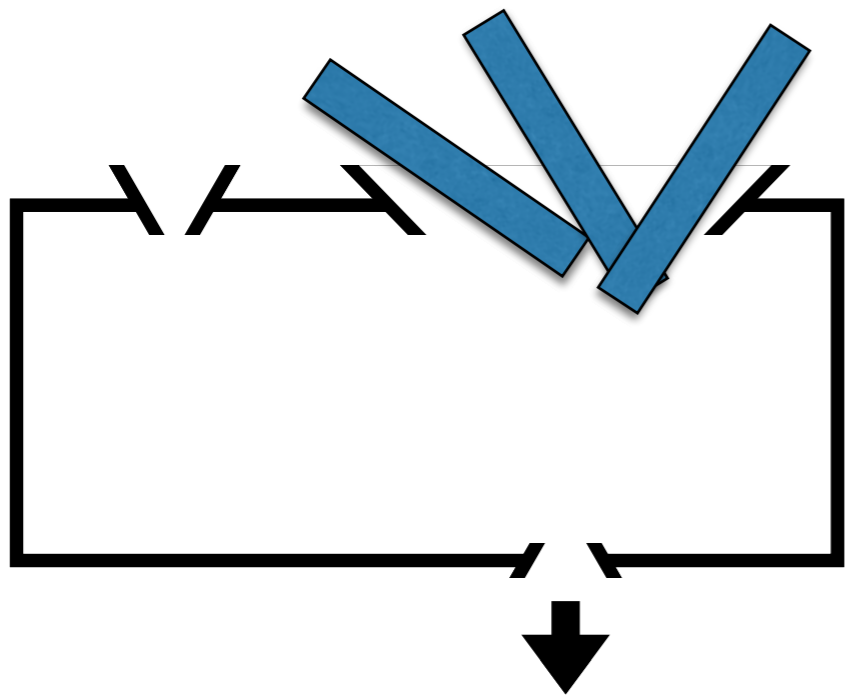
# Agregační funkce

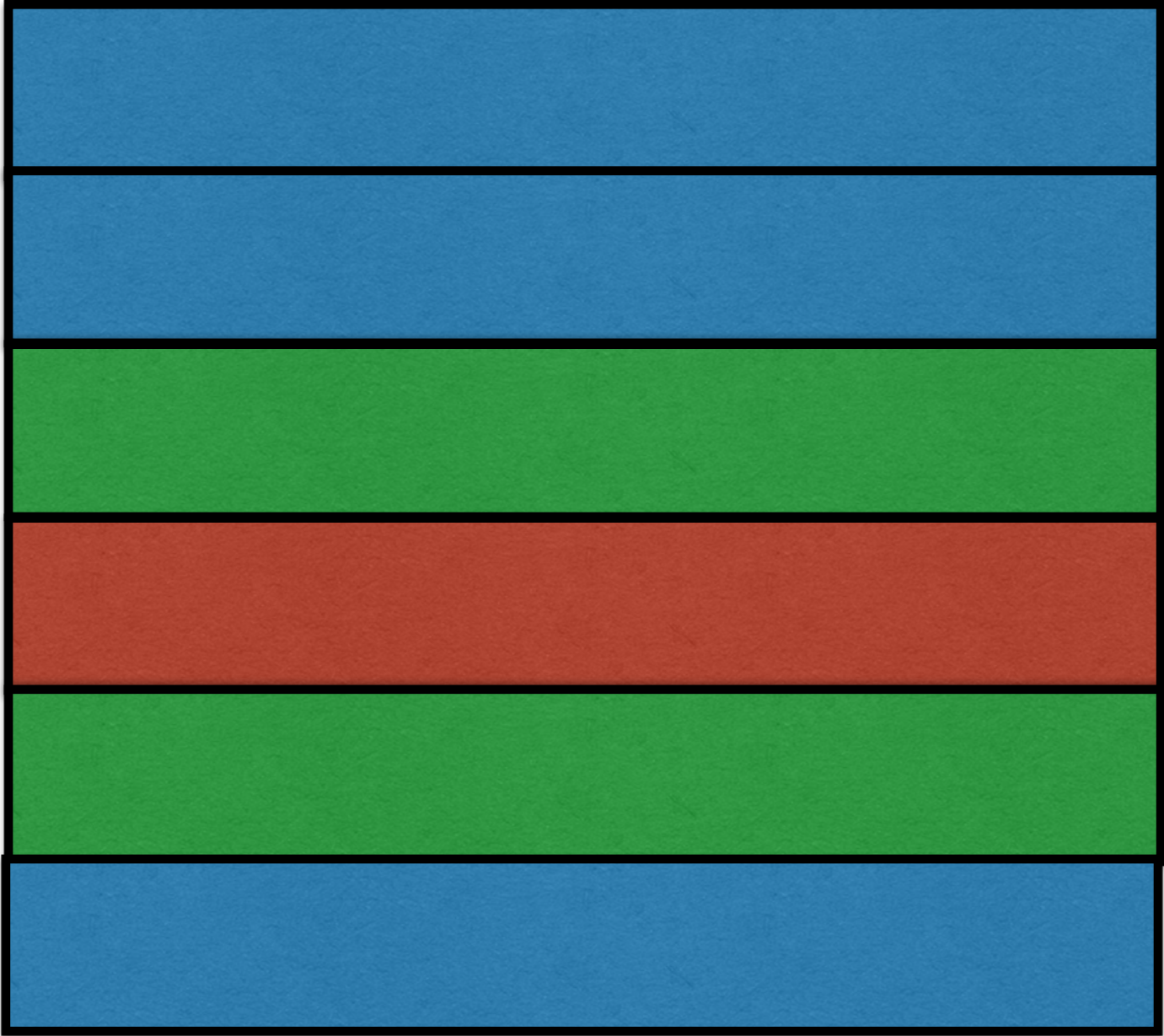


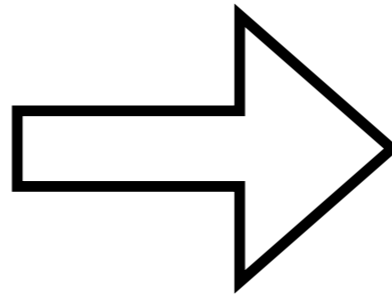
# Agregační funkce



**GROUP BY color**



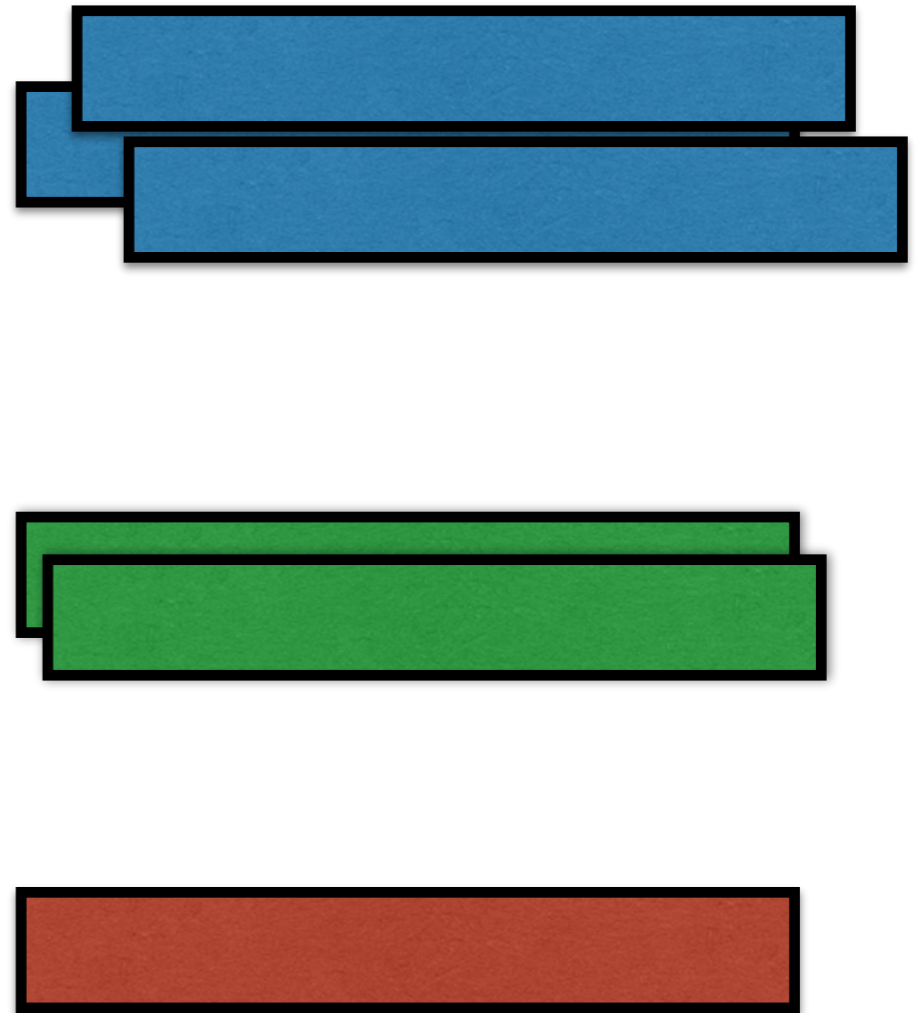
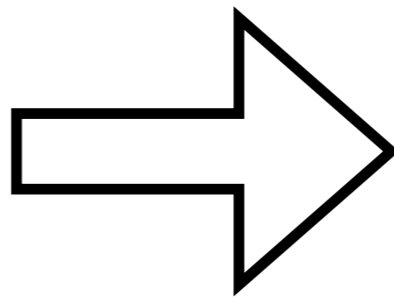
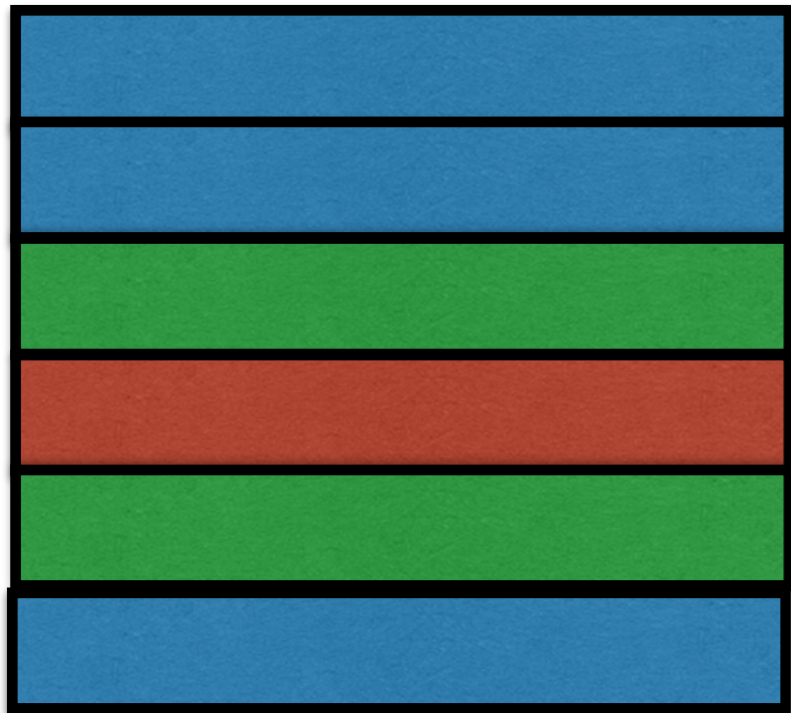




# **Agregace**

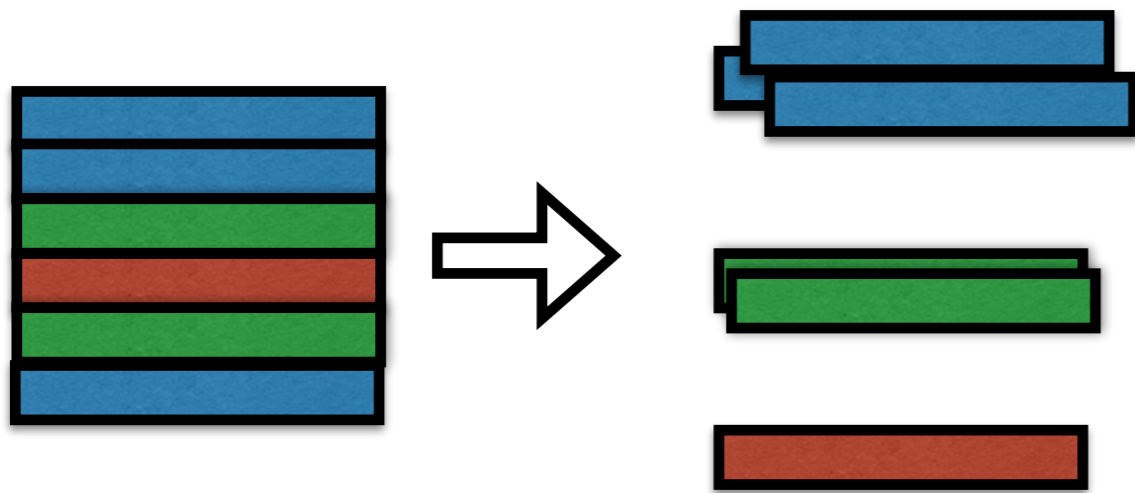
Počet, průměr, součet...

# GROUP BY



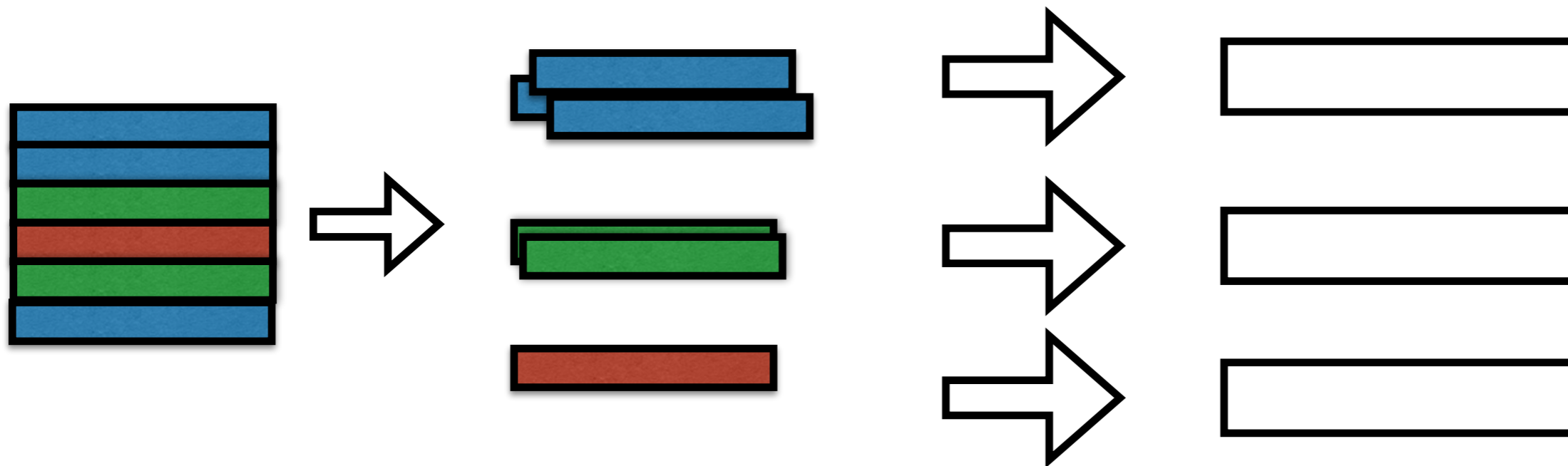


# GROUP BY + agregace



GROUP BY color

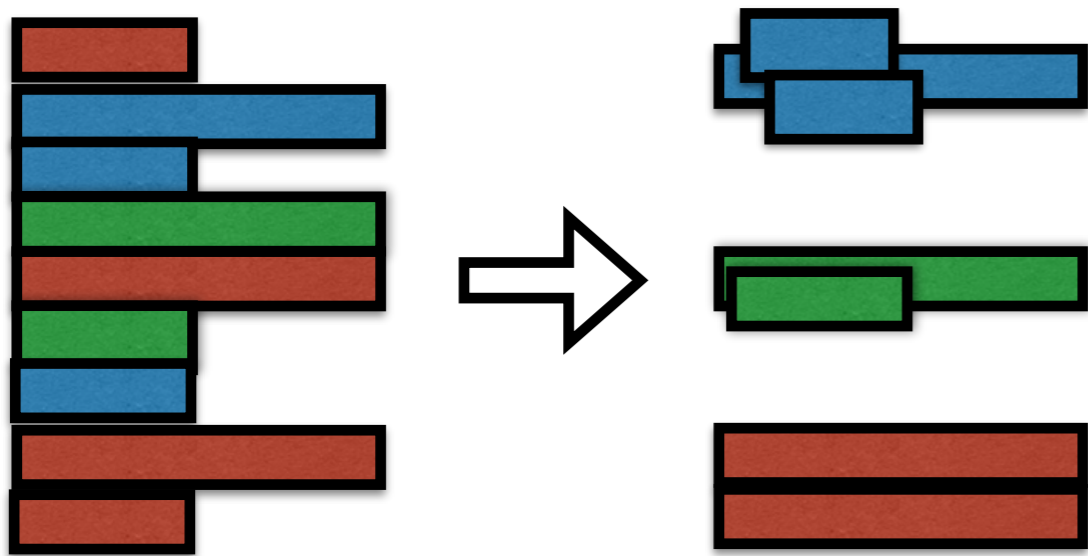
# GROUP BY + agregace



agregační funkce

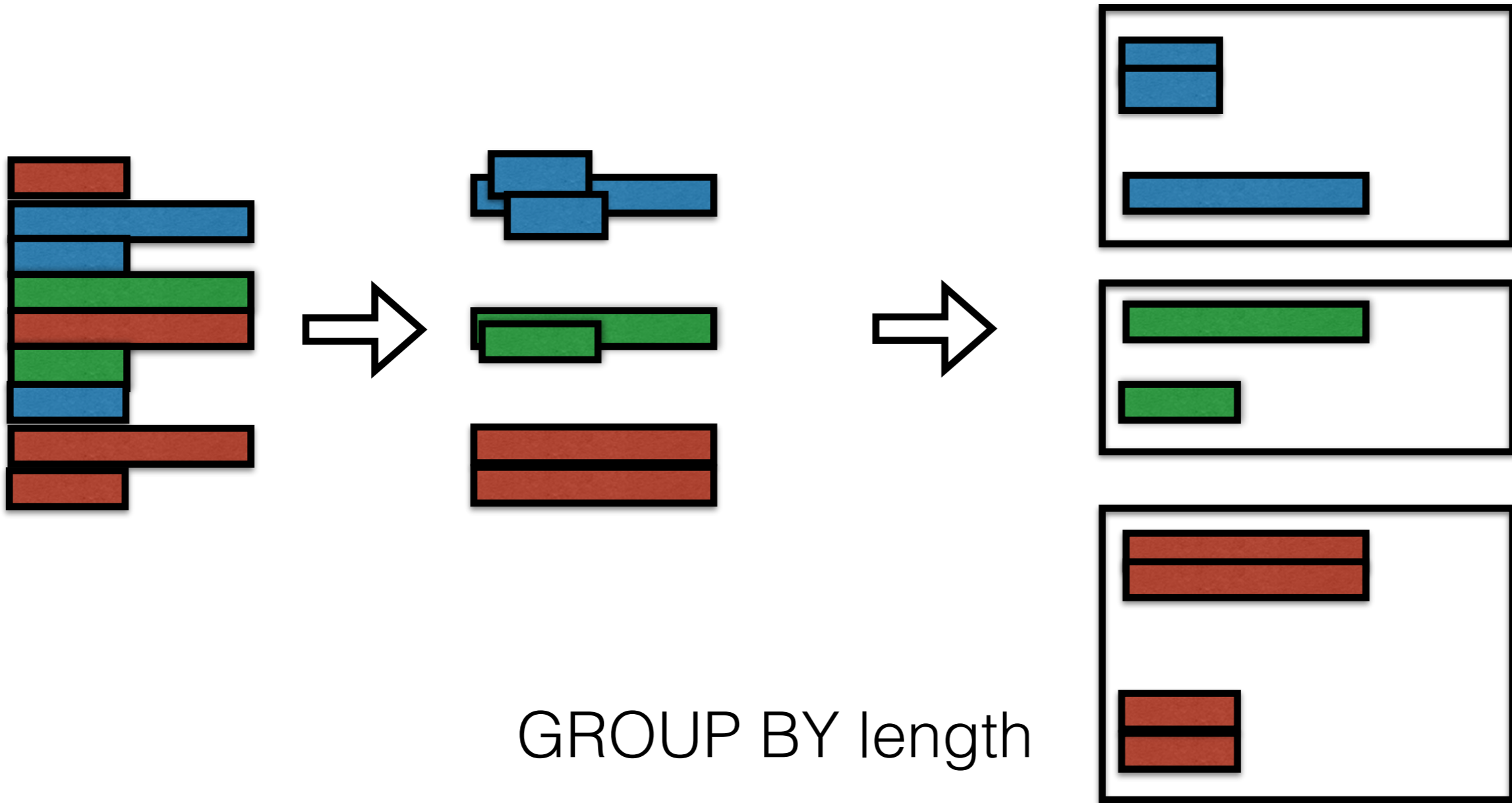
<http://muni-jdem.jdem.cz/>

# dvojitý GROUP BY

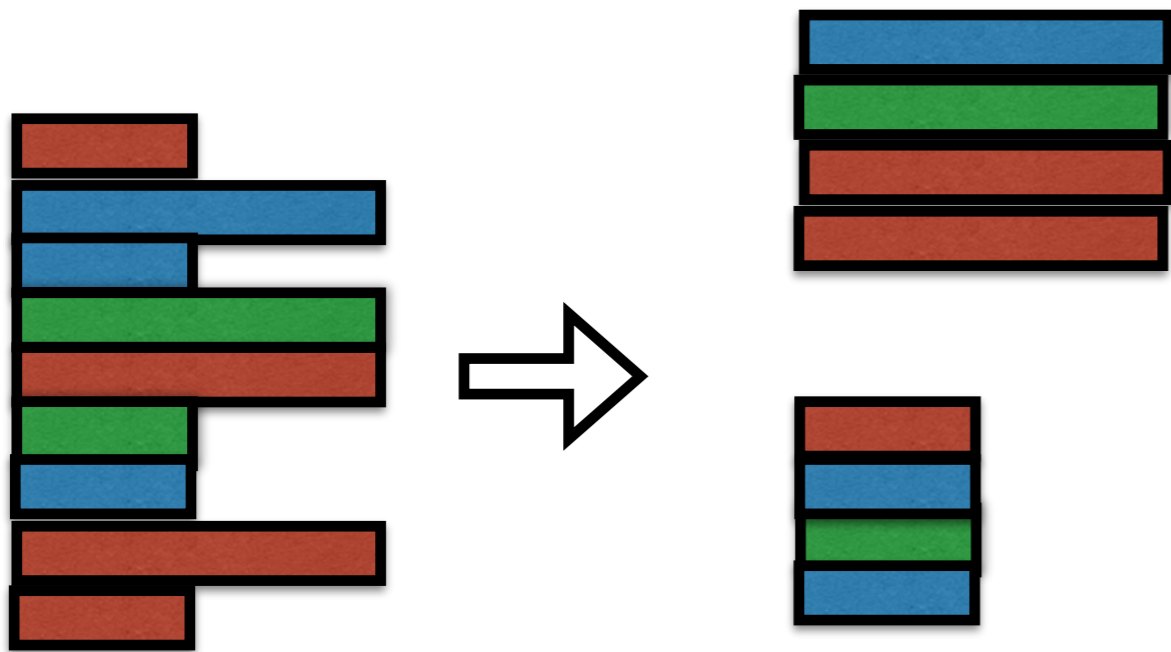


GROUP BY color

# dvojitý GROUP BY

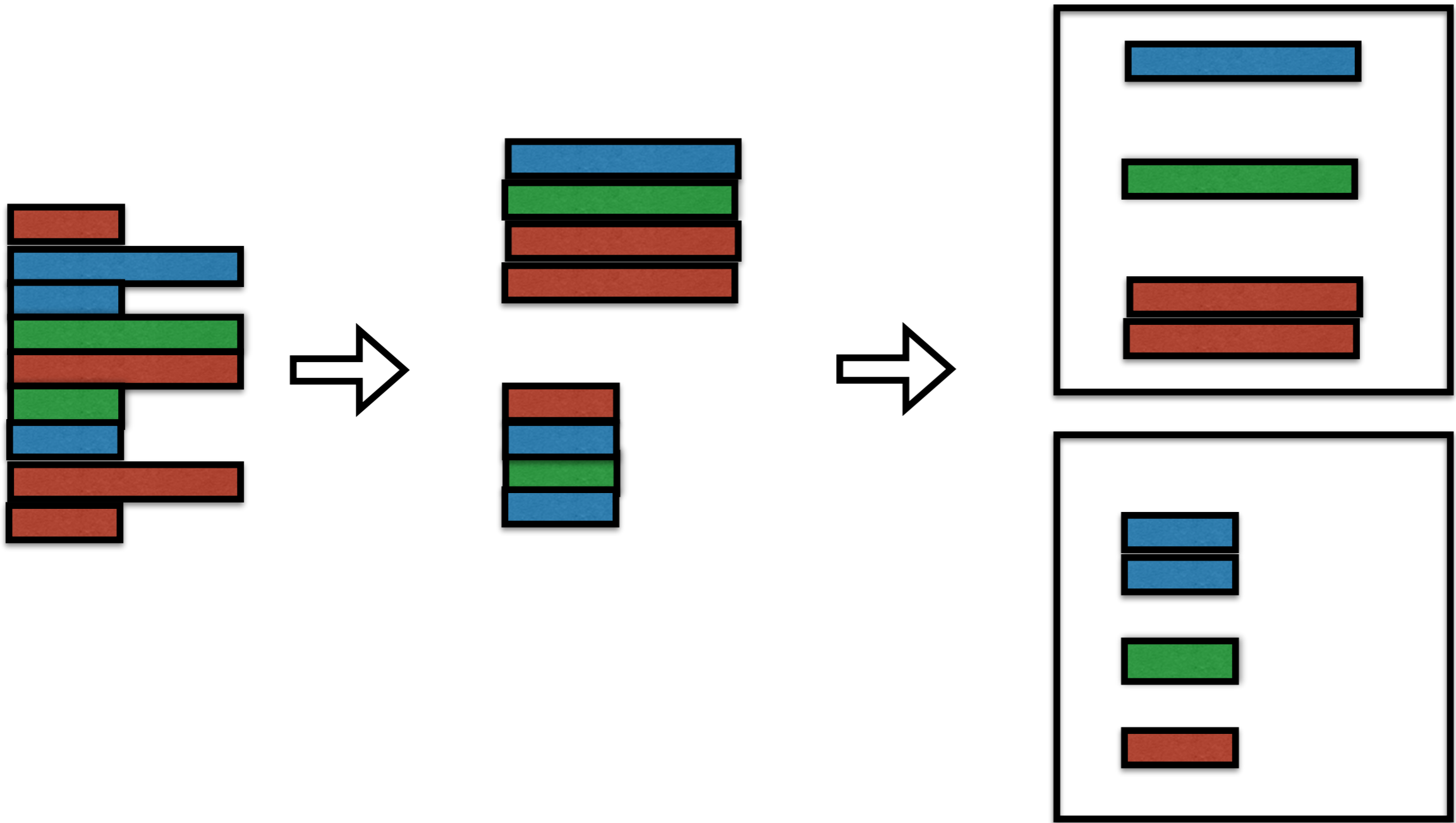


# dvojitý GROUP BY



GROUP BY length

# dvojitý GROUP BY



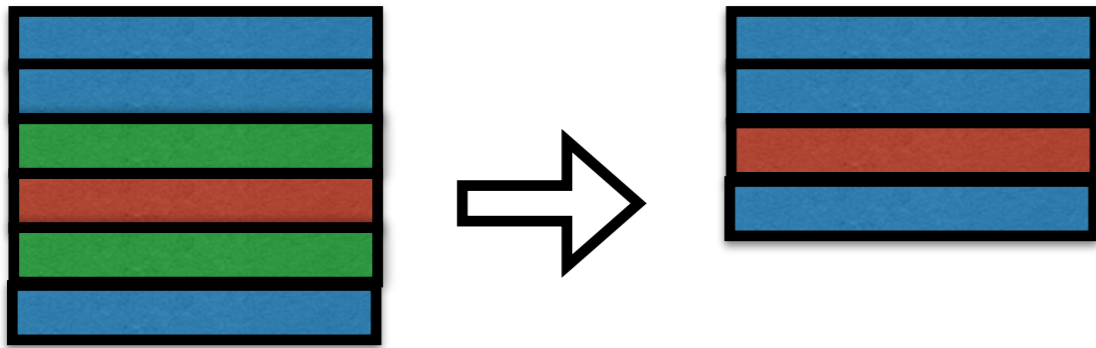
GROUP BY color

**WHERE + GROUP BY +  
agregace**



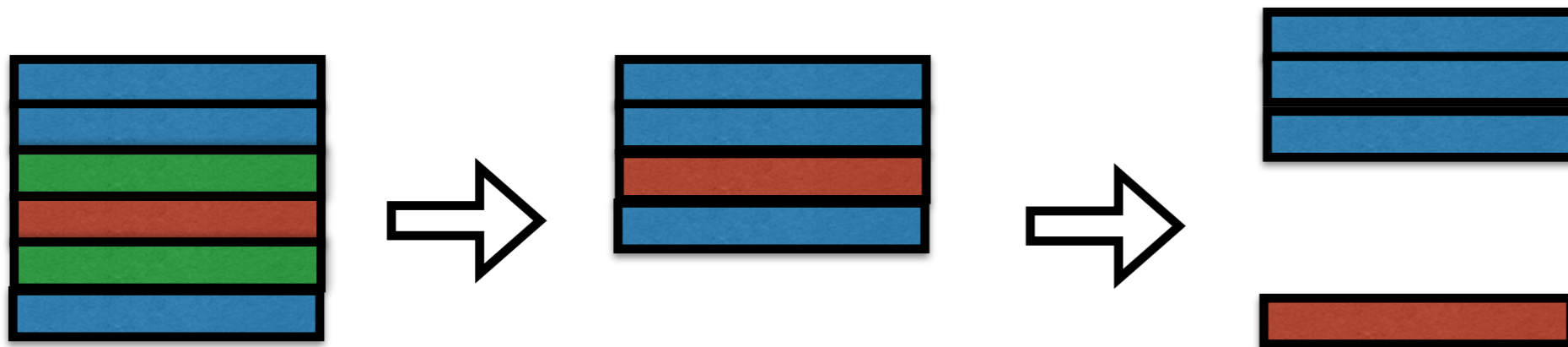


# WHERE + GROUP BY + agregace



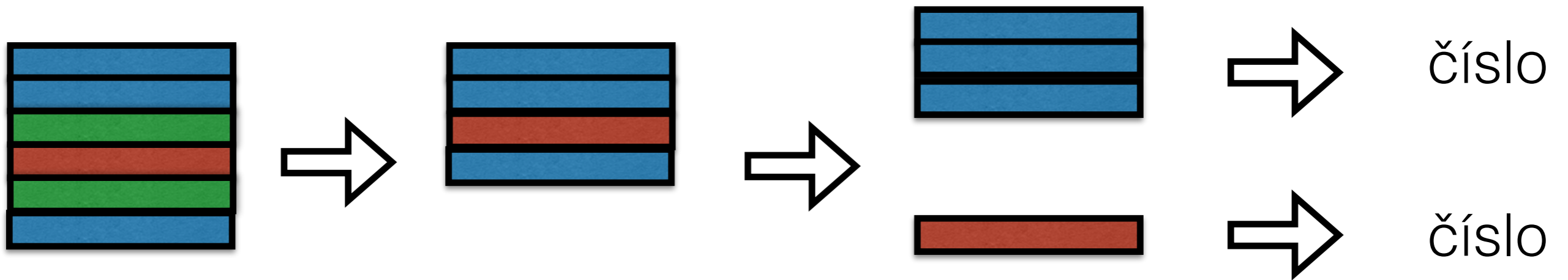
where **BLUE** or **RED**

# WHERE + GROUP BY + agregace



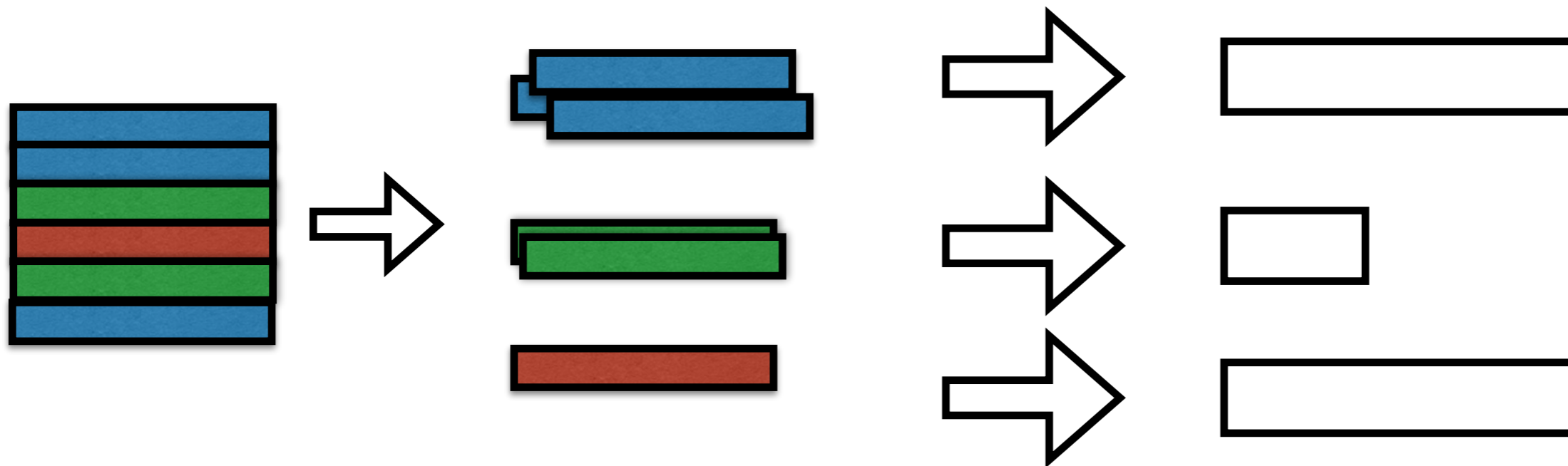
GROUP BY color

# WHERE + GROUP BY + agregace



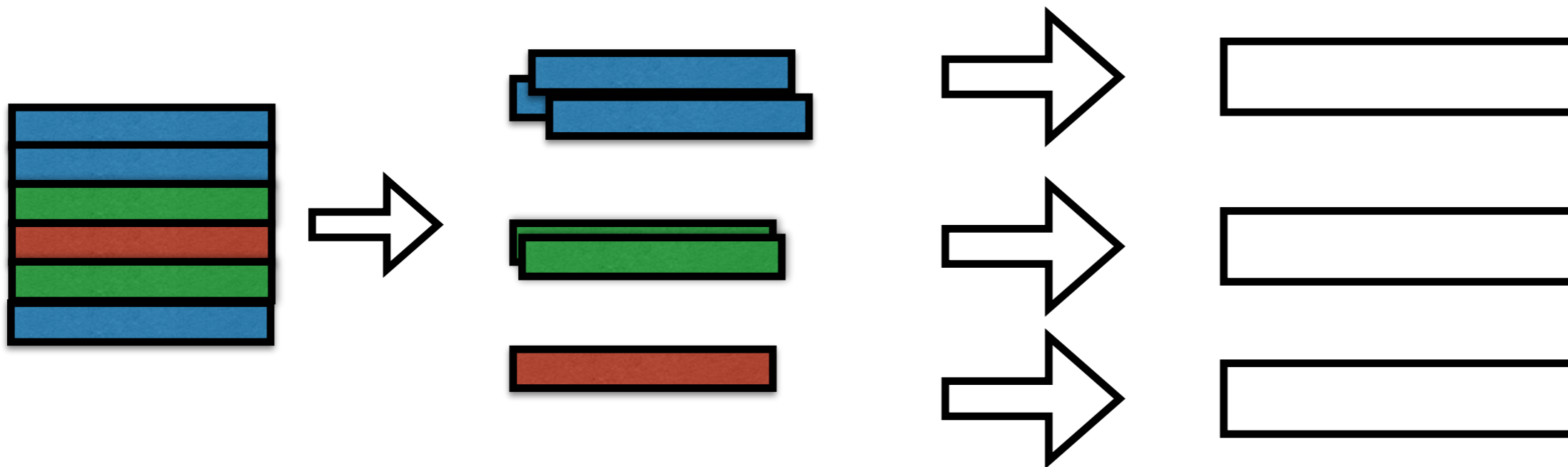
Agregační funkce

# GROUP BY + agregace + HAVING



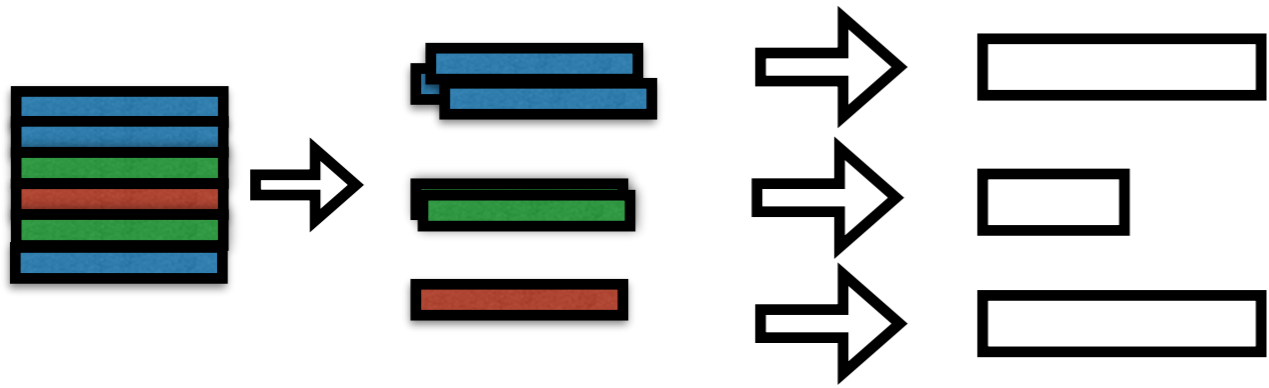
agregační funkce

# GROUP BY + agregace + HAVING

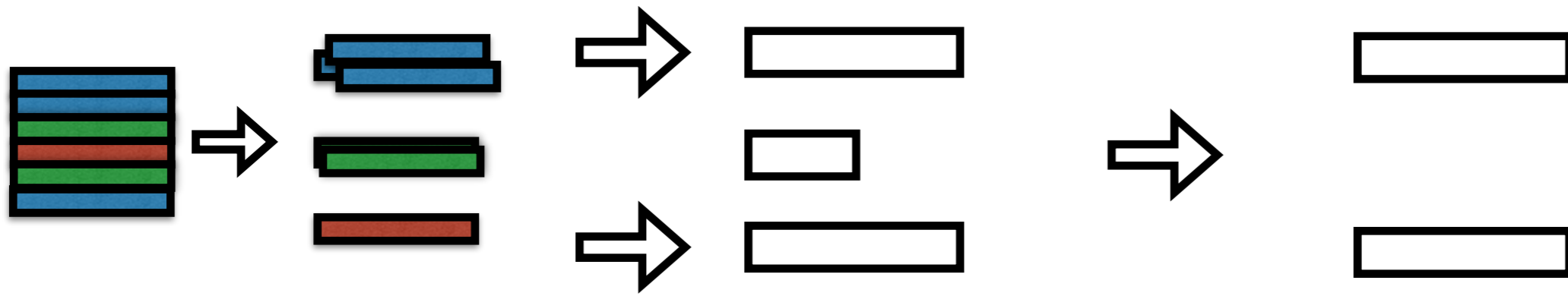


agregační funkce

# GROUP BY + agregace + HAVING



# GROUP BY + agregace + HAVING



**HAVING**

# Kombinace všeho

```
SELECT fakulta, SUM(pocet_lidi) as lidi_na_pracovisti  
FROM fakulty  
WHERE fakulta LIKE "f%"  
GROUP BY fakulta  
HAVING lidi_na_pracovisti > 200  
ORDER BY fakulta DESC  
LIMIT 3
```