

B4M36DS2, BE4M36DS2: **Database Systems 2**

<http://www.ksi.mff.cuni.cz/~svoboda/courses/211-B4M36DS2/>

Practical Class 2

# XPath

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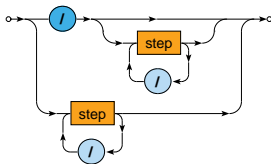
**Charles University**, Faculty of Mathematics and Physics

**Czech Technical University in Prague**, Faculty of Electrical Engineering

# Path Expressions

## Path expression

- Absolute / relative paths



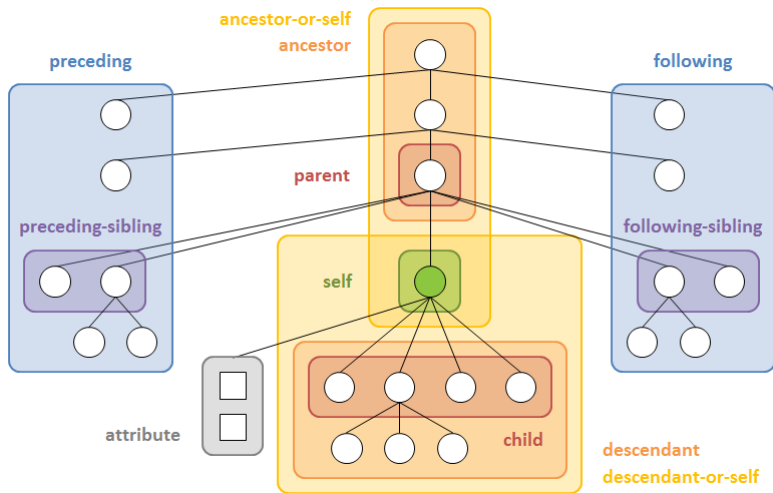
# Path Expressions

## Steps of path expressions



- **Axis**
  - Specifies the **relation of nodes** to be selected for a given node
- **Node test**
  - **Basic condition** the selected nodes must further satisfy
- **Predicates**
  - **Advanced conditions** the selected nodes must further satisfy

# Path Expressions: Axes



# Exercise 1

Express the following XPath queries

- **Names of all airline companies** (whole `airline` elements)
- **Full names of all airports** (just text content)
- **Codes of all airports** (their values)
- **The last ticket of the third flight** (in the document order)
- **Distinct codes of flight ticket classes** (without duplicities)

## Exercise 2

Express the following XPath query

- **Flight numbers operated by A6-EOQ aircraft on 2019-10-13**

# Exercise 3

Express the following XPath query

- **Flights with at least one first class ticket (*F*) or business class ticket (*C*)**

# Exercise 4

Express the following XPath query

- **Flights without any first class ticket (*F*) as well as any business class ticket (*C*)**
  - Include only flights with at least one ticket



# Exercise 5

Express the following XPath query

- **Numbers of flights that depart on *2019-10-18* or any date later and that have no aircraft assigned yet**

# Exercise 6

Express the following XPath query

- **Lines with duration above the overall average**

# Exercise 7

Express the following XPath query

- **Overall number of flights heading to any airport in Germany (DEU) on 2019-10-18**

# Exercise 8

Express the following XPath query

- **Passenger name on the very last ticket in the entire file**