Practical Class 6:

XQuery

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http://www.ksi.mff.cuni.cz/~svoboda/courses/2015-2-NPRG036/
http://www.ksi.mff.cuni.cz/~svoboda/courses/2015-2-A7B36XML/

Expressions

- XQuery expressions
  - **XPath** path expressions
  - Computed and direct **constructors**
  - **FLWOR** expressions
  - **Conditional expressions**
  - Universal and existential **quantifiers**

Constructors

- ## Direct constructors

```
<element>
   <element attribute="value">
      text
      {  nested XQuery expression  }
   </element>
   <!-- comment -->
   <?target data?>
</element>
```

Constructors

- **Computed constructors**

  - document { *content* }

  - **element** *name* { *content* }

  - **attribute** *name* { *value* }

  - **text** { *text* }

  - comment { *text* }

  - processing-instruction { *target* } { *content* }

FLWOR Expressions

- FLWOR clauses

  - (ForClause | LetClause)+ WhereClause? OrderByClause? ReturnClause

  - **FOR** clause: items selection

  - **LET** clause: auxiliary assignments

  - **WHERE** clause: filtering conditions

  - **ORDER BY** clause: result ordering

  - **RETURN** clause: result construction

FLWOR Expressions

- General FLWOR pattern
  - **for** `$item` **in** *sequence*, …
  - **let** `$variable` **:=** *expression*, …
  - **where** *condition*
  - **order by** *criterion*, …
  - **return** *result*

Other Constructs

- **Conditional expressions**
  - **if** (*condition*) **then** *expression* **else** *expression*

- **Quantified expressions**
  - Existential quantifier
    - **some** $item **in** *sequence* **satisfies** *condition*
  - Universal quantifier
    - **every** $item **in** *sequence* **satisfies** *condition*

Comparisons

- **Value comparison**
  - eq, ne, lt, le, ge, gt

- **General comparison**
  - =, !=, <, <=, >=, >

- **Node comparison**
  - is, <<, >>