

MI-PDB, MIE-PDB: **Advanced Database Systems**

Practical class 6:

# **SPARQL Query Language**

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# Assignment 1

- Express the following SPARQL query
  - Select all students
  - Return their personal numbers, first and last names

?number	?first	?last
"2"	"Martin"	"Svoboda"
"4"	"Tomas"	"Knap"
"6"	"Jakub"	"Klimek"

# Assignment 2



- Express the following SPARQL query
  - Select all courses with codes starting with *NPRG*
    - Use *regex(string, pattern)* function
  - Return course codes and titles
  - Order the courses using their titles

?code	?title
"NPRG030"	"Programming I"
"NPRG036"	"XML Technologies"

# Assignment 3

- Express the following SPARQL query
  - Find students and their e-mail addresses
    - Note that e-mail addresses might be missing
  - Return personal numbers and e-mails

?number	?email
"2"	"svoboda@ksi.mff.cuni.cz"
"4"	"knap@ksi.mff.cuni.cz"
"6"	

# Assignment 4



- Express the following SPARQL query
  - Select students, their e-mails and web pages
    - Note that both e-mails and web pages might be missing
  - Return personal numbers, e-mails and web pages

?number	?email	?web
"2"	"svoboda@..."	".../~svoboda/"
"4"	"knap@..."	
"6"		".../~klimek/"

# Assignment 5

- Express the following SPARQL query
  - Select all courses that are taught on *Mondays or Fridays*
    - Assume only courses in *winter* semester 2011/12
    - I.e. *t:term1112W*
  - Return course references and codes

?c	?code
t:c7	"NPRG036"
t:c5	"NSWI096"

# Assignment 6



- Express the following SPARQL query
  - Select all courses that are not taught on *Mondays or Fridays*
    - Assume only courses in *winter* semester *2011/12*
    - I.e. *t:term1112W*
  - Return course references and codes
  - Do not use NOT EXISTS and MINUS constructs

?c

?code

# Assignment 7



- Express the following SPARQL query
  - Select all courses that are not taught on *Mondays or Fridays*
    - Assume only courses in *winter* semester 2011/12
    - I.e. *t:term1112W*
  - Return course references and codes
  - Use **NOT EXISTS** filter or **MINUS** graph pattern

?c

?code



# Assignment 8

- Express the following SPARQL query
  - Return average study results for all students
    - Assume only courses in *winter* semester 2011/12
  - Ignore enrollments with undefined results
  - Describe students by their full names
  - Include only students with at least 10 courses