

NPRG036: XML Technologies

Practical Classes 3 and 4:

XPath: Exercises

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Exercise 1

- Express the following XPath queries
 - Select all owners (with their entire subtrees)
 - Select names of all agencies (just text content)
 - Select owner countries without duplicate values
 - Select name of owner with id o2

Exercise 2

- Express the following XPath query
 - Select postal codes of all owners from the *United States*

Exercise 3



- Express the following XPath query
 - Select rate values of flats with a comfort level C from all properties other than $p2$

Exercise 4

- Express the following XPath query
 - Select the third feature of the first property

Exercise 5



- Express the following XPath query
 - Select names of properties without owners and with at least two features

Exercise 6

- Express the following XPath query
 - Select owners without any properties

Exercise 7

- Express the following XPath query
 - Select flats with rates below average

Exercise 8

- Express the following XPath query
 - Select names of owners who own a flat with a bath

Exercise 9

- Express the following XPath query
 - Select the overall sum of rates of flats of comfort levels of *C* or *D* from properties of owner *o1*

Exercise 10



- Express the following XPath query
 - Select names of the very first and very last flat in the entire document, including recursively nested flats (i.e. with respect to the document order)

Exercise 11



- Express the following XPath query
 - Given an identifier of a particular flat, select the top level flat that (recursively) contains it
 - E.g. select flat f4 when f4a1, f4a or f4 queried

Exercise 12

- Express the following XPath query
 - Select distinct countries of owners of flats with comfort level *A* or rent greater than *20000*

Exercise 13

- Express the following XPath query
 - Select comfort levels of top level flats, but only when they do not contain any other flats

Exercise 14



- Express the following XPath query
 - Select elements with value *46001*, but only when their name does not start with *d* and their depth is equal to at least 5

Exercise 15



- Express the following XPath query
 - Select distinct names of countries where owners reside
 - Do not use *distinct-values()* function

Exercise 16

- Express the following XPath query
 - Select employees that are not responsible for any property in *New York*
 - First, assume that family names alone are sufficient for the required identification of employees
 - Second, what if the full names are needed instead?

Exercise 17

- Express the following XPath query
 - Names of flats from properties that have at least 2 top level flats listed within the *flats* element
 - What about arbitrary $n > 2$?