



# Traces of lists

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# Specify order of list elements in list constructing functions

- `collect( expr )` - aggregates `expr` into a list
- order of elements not specified, input ordering?? (if any) [#165](#)
- what if collecting more lists with different ordering?
  - List comprehensions? [#190](#), [#202](#)
  - extend syntax
- For the current syntax:

```
UNWIND range(1, 10) as i           // 1st query step
RETURN collect(i ORDER BY i ASC) AS l // 2nd query step
```

- For CIP2017-04-13 syntax

```
UNWIND range(1, 10) as i           // 1st query step
RETURN collect OF i ORDER BY i ASC AS l // 2nd query step
```

# Resultset ordering between query steps

- Does ordering matter in subsequent query steps?

```
MATCH (n)
WITH n ORDER by n.value
OPTIONAL MATCH (n) --> (m)
RETURN n, m
```

- Another example for collecting list in [#165](#)
- If it matters,
  - pros: intuitive, currently(\*) this is the way to set order for collect
  - \*: see [CIR-2017-220](#)
  - cons: poses difficulties(\*) for parallel query evaluation
  - \*: performance loss

# OPTIONAL UNWIND

- Given four persons and the languages they command

```
CREATE (:Demo {name: 'Alice', languages: ['en', 'de', 'gr'] })
      , (:Demo {name: 'Bob', languages: ['en', 'de'] })
      , (:Demo {name: 'Cecil', languages: [] })
      , (:Demo {name: 'Dennis' })
```

```
MATCH (n:Demo)
UNWIND n.languages AS lang
RETURN n.name, lang
```

"n.name"	"lang"
"Alice"	"en"
"Alice"	"de"
"Alice"	"gr"
"Bob"	"en"
"Bob"	"de"

```
MATCH (n:Demo)
OPTIONAL UNWIND n.languages AS lang
RETURN n.name, lang
```

"n.name"	"lang"
"Alice"	"en"
"Alice"	"de"
"Alice"	"gr"
"Bob"	"en"
"Bob"	"de"
"Cecil"	NULL
"Dennis"	NULL



# That's all

1. Specify order of list elements in list constructing functions
2. Resultset ordering between query steps
3. OPTIONAL UNWIND

Content presented here are a collection of current Cypher Improvement Requests (CIR), problems and ideas. They might change if/when they are built in the openCypher language.