

**Exercise Sheet 7: More Advanced SPARQL**  
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**Exercise 7.1.** Use the Wikidata query service<sup>1</sup> to find answers to the following queries:

1. the top 25 universities that employed the most professors that have been educated there (Q16188175 (“Ingerid Dal”) is one such professor),
2. the top 10 musical instruments played by people who are composers by occupation or have composed something (Q1339 (“Johann Sebastian Bach”) is a good starting point to explore the schema),
3. the top 30 composers with the most musical works whose English label is longer than the average English label of musical works,
4. the top 20 bands by the number of former members who are still alive (band members are modelled using P527 (“has part”) and P463 (“member of”)),
5. the top 15 bands and musicians by the number of bands and musicians they have influenced (you can expect both Q1299 (“The Beatles”) and Q5928 (“Jimi Hendrix”) to be among the results),
6. the top 30 bands by the number of things named after them or after something performed by them (except for any type of Q83620 (“thoroughfare”)), together with all these things,
7. the top 42 music genres by the number of bands and musicians, and
- \* 8. for every sovereign state (Q3624078), the music genre(s) with the most bands or musicians from this state.

**Hints:**

- Use the SQID browser<sup>2</sup> to explore the schema.
- Some of the queries can be written in different ways. While this should not have any impact on the results, it might lead to different query execution plans. Hence, when your query times out, try a different approach.
- GROUP\_CONCAT does not work on labels injected via the label service, you will need to retrieve these from the RDF data. They are represented using the rdfs:label predicate, use FILTER(LANG(?label) = "en") to restrict the results to English labels.

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<sup>1</sup><https://query.wikidata.org>

<sup>2</sup><https://tools.wmflabs.org/sqid/#/>