Project Report Preparation Guideline

I. The report should be prepared using the following steps.

a. A maximum of 5 pages,
You need to include in the report the contributions of each group member. Please note that contributions such as writing the report and preparing slides will not be considered valid tasks; therefore, do not list them as contributions. Deadline: **January 20th, 2025**

b. Describe your solution including the steps (see II for detailes):

1. Application domain and goals
2. Datasets used
3. Techniques used
4. Example results
5. Known limitations
6. Lessons learned

c. Requirements
    a. Please cite your sources properly.
    b. Make sure to use the LaTeX template that is provided.

II. The report should describe the following steps.

1. Application domain and goals
– Provide a short description of the application domain.
– Provide a motivation and argue why semantic web technologies are the appropriate choice.

2. Dataset transformation
– How did you transform your dataset into RDF?
– Which additional datasets did you use?
– How are they accessed (SPARQL, local)?
– How do you combine information from different datasets?
– How did you link your data with other datasets such as Wikidata, DBpedia, YAGO, etc?
– Provide dataset statistics, i.e., number of triples, resources, properties, axioms, etc. In addition, show by how much you reduced the size of the data, for example, by efficiently modelling (temporal/spatial) facts.
– Provide some example RDFS/OWL axioms and discuss what they mean.

3. Techniques (or Semantic web technologies) used
– Reasoning
– Search
– External services
– Large language models
– (Knowledge) graph embeddings

4. Example results
   – What outcomes does the application provide?
   – How are some user queries answered?
   – Did you perform reasoning either using RDFLib or Protégé plugins such as OWL-RL, Fact++, Pellet?

5. Known limitations
   – Are there queries which cannot be answered? Why?
   – How could you overcome those limitations if given more time?
   – In your view, what are the limitations of the RDF data model in particular and semantic web technologies in general?
   – What sort of tricks/methods did you employ in order to reduce the number of triples generated by your transformation?

6. Lessons learned
   – Which challenges did you face?
   – What were the biggest obstacles?
   – What would you do differently next time?
   – Provide remarks for: what are the challenges for the semantic web? Do you see a future for it in the era of generative AI?