**1. Are the four graphs all well-formed? Why?**

A well-formed RDF graph follows the RDF data model, meaning:

• It consists of subject-predicate-object triples.

• Subjects are IRIs or blank nodes.

• Predicates are IRIs.

• Objects can be IRIs, blank nodes, or literals.

**Analysis of Each Figure:**

• **Fig a:**

• The structure appears well-formed.

• "Chris Evans" has a blank node (\_:n) connected via foaf:name, which is correct.

• The blank node (\_:s) is used to represent a movie, which has an rdf:type of ex:MCU and a dc:title.

• All predicates are valid IRIs.

• **Fig b:**

• Similar to Fig a but specifies ex:Movie instead of ex:MCU.

• Still well-formed, as it maintains the triple-based structure.

• **Fig c:**

• Uses an additional blank node (\_:t) as a placeholder for the movie title.

• As long as \_t is properly linked via dc:title, the graph remains well-formed.

• Since blank nodes are valid in RDF, this is still correct.

• **Fig d:**

• Introduces another blank node (\_:v), which is also valid.

• Still follows the RDF model, with properly formed triples.

**Conclusion:**

All four graphs are **well-formed RDF graphs** as they adhere to RDF constraints, using proper subjects, predicates, and objects.

**2. Express the graph in Fig d as a set of triples.**

Using the same literals, IRIs, and blank nodes found in Fig d, the RDF triples are:

\_:n foaf:name "Chris Evans" .

\_:n ex:stars \_:s .

\_:s rdf:type ex:MCU .

\_:s dc:title "Captain America" .

\_:n ex:stars \_:v .

Exercise 2