

# CSC343 Worksheet 9 Solution

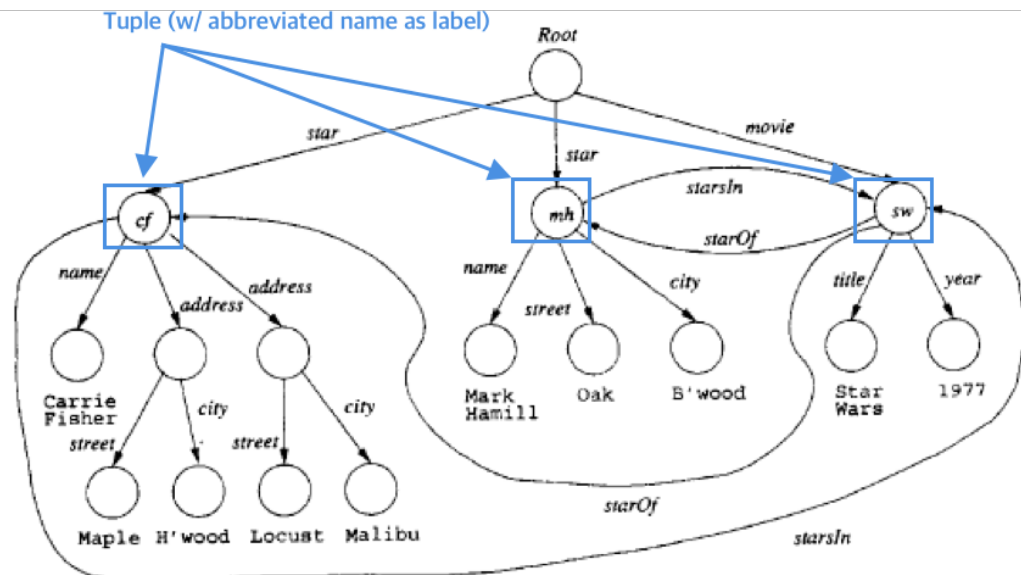
June 27, 2020

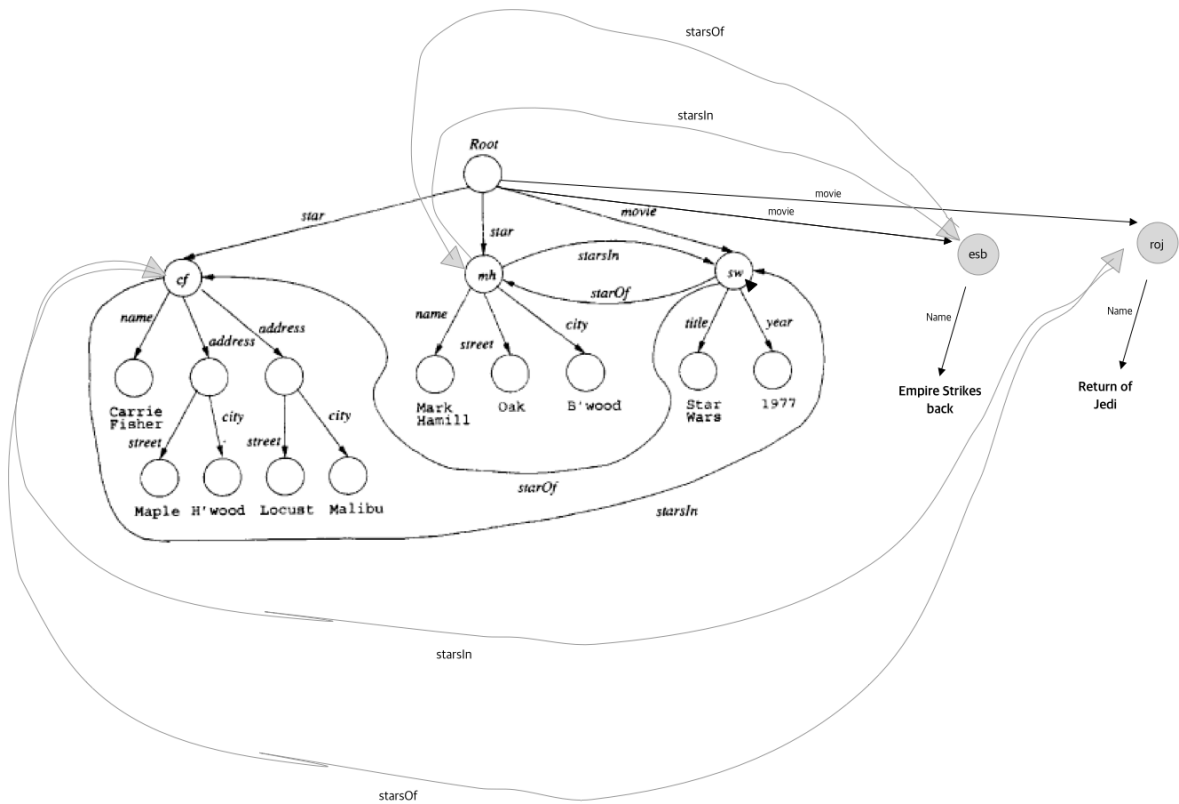
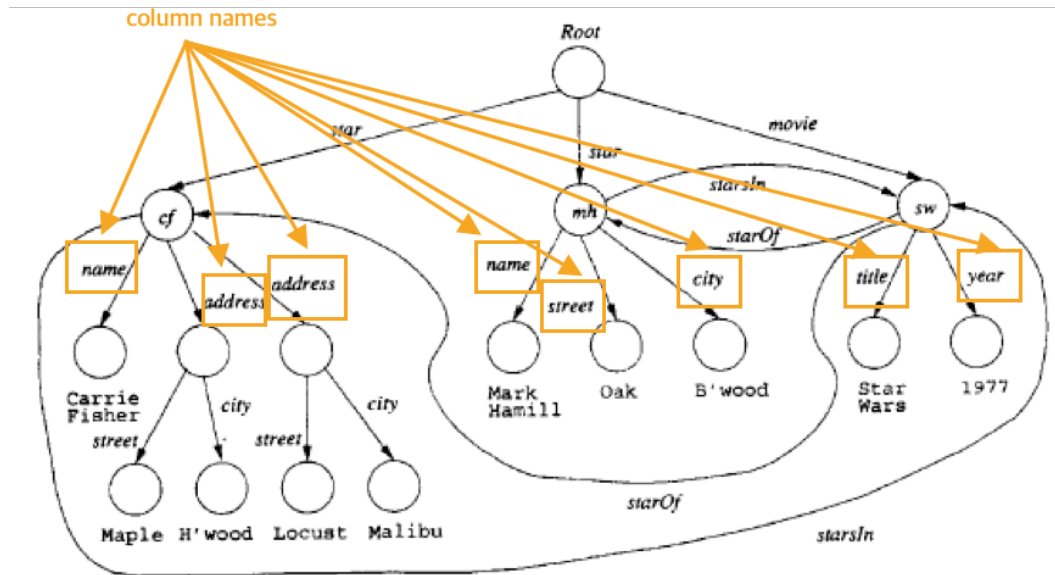
## 1. Exercise 11.1.1:



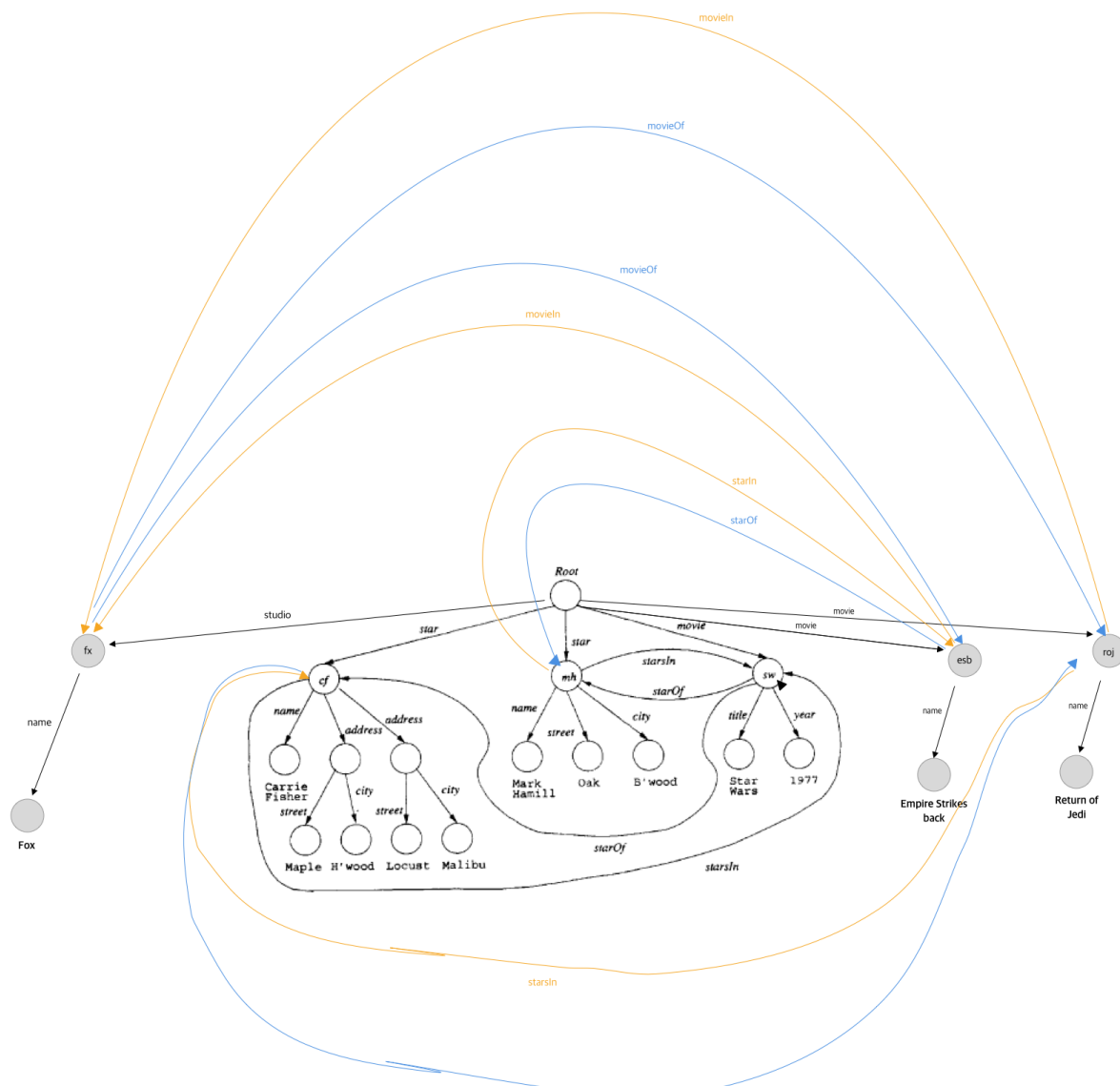
### Notes:

- Semistructured data
  - serves as a model suitable for **databases integration**, that is, for describing the data contained in two or more databases that contain similar data with different schemas
  - It serves as the underlying model for notations such as XML, to be taken up in Section 2, that are being used to share information on the web.
- Semistructured Data Representation
  - is a collection of nodes





b)



c)





3.

4. The difference is that UML must fit data into its schema, where as the semi structured data allows whatever schema information that is appropriate to be attached to data

### Notes:

- Semi-structured Data
  - Is schemaless

- Is motivated primarily by its flexibility
- One could enter data at will, and attach to the data whatever schema information you felt was appropriate for that data.
- Makes query processing harder
- Structured Data
  - Is rigid framework into which data is placed.
  - Data must fit into schema
  - Fixed schema allows data to be organized with data structures that support efficient answering of queries
  - e.g. UML, E/R, Relational, ODL

## 5. • XML

- is called *Extensible Markup Language*
- is an example of semistructured data
- XML with and without a Schema
  - has two different types
    1. Well-formed XML
      - \* allows to invent your own tags
      - \* corresponds very-similarly to semi-structured data

```

1      <? xml version = "1.0" encoding="utf-8" standalone = "yes
      ">
2      <StarMovieData>
3          <Star>
4              <Name>Carrie Fisher</Name>
5              <Address>
6                  <Street>123 Maple St.</Street>
7                  <City>Hollywood</City>
8              </Address>
9              <Address>
10                 <Street>5 Locust Ln.</Street>
11                 <City>Malibu</City>
12             </Address>
13         </Star>
14         <Star>
15             <Name>Mark Hamill</Name>
16             <Street>456 Oak Rd.</Street>
17             <City>Brentwood</City>
18         </Star>
19         <Movie>
20             <Title>Star Wars</Title>
21             <Year>1977</Year>
22         </Movie>
23     </StarMovieData>
24

```

## 2. Valid XML

- \* Involves "Document Type Definition"
- \* specifies allowable tags and gives a grammar for how they may be nested