

Quiz 2: Data Modeling

Due Sep 12, 2016 at 11:59pm

Points 100

Questions 5

Available Sep 7, 2016 at 8am - Sep 12, 2016 at 11:59pm 6 days

Time Limit 60 Minutes

This quiz was locked Sep 12, 2016 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	59 minutes	54 out of 100

Score for this quiz: **54** out of 100

Submitted Sep 12, 2016 at 5:43pm

This attempt took 59 minutes.

Question 1

20 / 20 pts

Why does the XML Schema language provide type definitions? Why not just provide element declarations?

Your Answer:

XML Schema language is for validating XML documents. In XML Schema, type definition is a generalized way to define anything. If needed, one can always create an element from the type and with the type, other elements can also reuse that type. Using type definition has multiple advantages over using element definition. If it provides element declaration, the item must have intended to be used as an element in instance document and other elements are to be allowed to substitute for the element.

Question 2

10 / 20 pts

1. What is the principle of type substitutability in XML Schemas?
2. Describe a simple example. You don't have to provide XML or XML Schemas, just reference the example definitions in the lectures.

Your Answer:

1. Type Substitutability: The derivation of a simple type from another type by restriction always becomes a subtype. the one for which the set of values for the derived type is a subset of those for supertypes. And also the derivation of a complex type by extension also becomes a subtype. This whole concept known as type substitutability.

Suppose that audioBookType and filmType are derived from ContentType. If we declare an element, Content, to be of type ContentType (the base type) then in the instance document the content of a Content element can be of type audioBookType or filmType.

Question 3

20 / 20 pts

Both complextype and simpletype definitions may be based on simple content type. What is the difference between the content defined by each of these two forms of definitions?

Your Answer:

The main difference is complex type allows elements in their contents and may also allow them to carry attributes. And simple type can not have element contents and also can not carry attributes. Complex types can have attributes and can contain other elements. They also can contain mixture of element and type. but simple type content can only have content between element's opening and closing tags.

Question 4

0 / 20 pts

1. Name the complex type mechanism in XML Schemas for representing type generalization?
2. What is the principle for derived complex types that supports type specialization?
3. Name the mechanism in XML Schemas for representing specialization of elements?

Your Answer:

1. XSD (XML Schema Definition) is the mechanism in XML schema for representing type generalization.
- 2.
3. For representing specialization of elements in XML schema, one has to make element domain in schema.

1. Choice element. 2. Type substitutability. 3. Element substitution.

Question 5

4 / 20 pts

Match up each definition below with the corresponding term.

You Answered

The union of several entity types.

Multi-Valued Dependency ▼

Correct Answer

Generalization

Correct!

In a relationship, a sequence of entities uniquely defines another entity or sequence of entities.

Functional Dependency ▼

You Answered

An entity type made up of parts from several other entity types.

Reification. ▼

Correct Answer

Aggregation

You Answered

In a relationship, a sequence of entities defines a set of related entities.

Aggregation ▼

Correct Answer

Multi-Valued Dependency

You Answered

A relationship is represented by an entity.

Generalization ▼

Correct Answer

Reification.

Quiz Score: **54** out of 100