

# Aufgabe 1 – XML-Schema

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```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  targetNamespace="http://dbs.uni-leipzig.de/ns/bib"
>
<xs:element name="bib">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="bib:biblioentry"
        maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
<xs:element name="biblioentry">
  <xs:complexType>
    <xs:attribute name="id" use="required"
      type="bib:bibld"/>
    <xs:sequence>
      <xs:element ref="bib:authorgroup"/>
      <xs:element name="title" type="xs:string"/>
      <xs:element name="subtitle" type="xs:string"
        minOccurs="0"/>
      <xs:element ref="bib:publisher" minOccurs="0"/>
      <xs:element name="pubdate" type="xs:integer"/>
      <xs:element ref="bib:pagenums"
        minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:simpleType name="bibld">
  <xs:restriction base="xs:string">
    <xs:pattern value="[A-Z][A-Za-z]{1,3}[0-9][0-9]" />
  </xs:restriction>
</xs:simpleType>
```

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```
<xs:complexType name="person">
  <xs:sequence>
    <xs:element name="surname"
      type="xs:string"/>
    <xs:element name="firstname" type="xs:string"
      maxOccurs="unbounded"/>
    <xs:element ref="bib:address"
      minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

```
<xs:element name="authorgroup">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="author"
        type="bib:person"
        maxOccurs="unbounded"/>
      <xs:element name="othercredit"
        type="bib:person"
        minOccurs="0"
        maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
<xs:element name="publisher">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="publishername"
        type="xs:string"/>
      <xs:element ref="bib:address" minOccurs="0" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
<xs:element name="pagenums">
  <xs:complexType>
    <xs:attribute name="start" use="required"
      type="xs:integer"/>
    <xs:attribute name="end" use="required"
      type="xs:integer"/>
  </xs:complexType>
</xs:element>
```

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```
<xs:element name="address">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="city"
        type="xs:string"
        minOccurs="0"/>
      <xs:element name="email"
        type="xs:string"
        minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

# Aufgabe 2 - JSON

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```
{ "bibloentry":{
  "authorgroup":[
    {
      "author": {
        "surname": "Rade",
        "firstname": "Lennart"
      }
    },
    {
      "author":{
        "surname": "Westergren",
        "firstname": "Bertil"
      }
    },
    {
      "othercredit": {
        "surname": "Vachenauer",
        "firstname": "Peter",
        "address": { "email": "pv@springer.de"}
      }
    }
  ],
  "title": "Springers Mathematische Formeln",
  "subtitle": "Taschenbuch für Ingenieure, Naturwissenschaftler, Informatiker, Wirtschaftswissenschaftler"
}
```