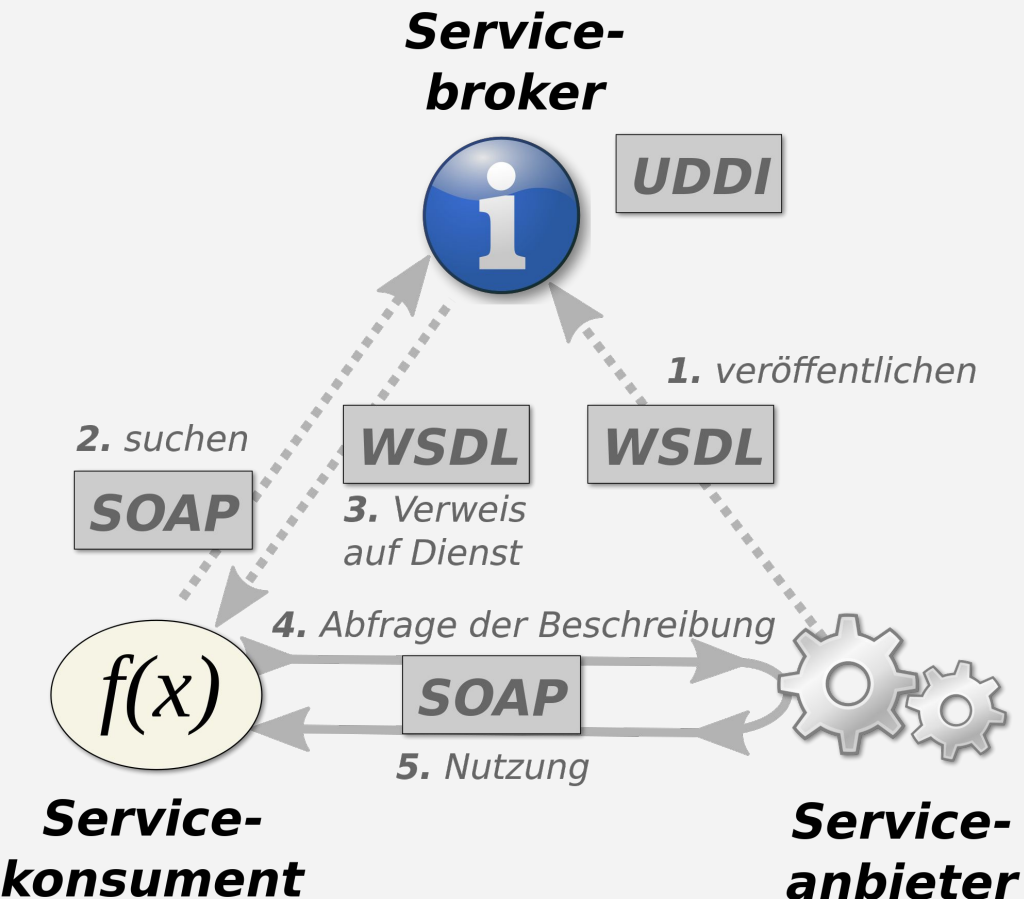


XML vs JSON

Presentation

Authors: Piotr Masior B00064347, Martin Zuber B00066378

Web services



Web services require web standards (eg. XML, JSON) to transfer documents (data) over the internet. It is necessary that a web application on other end, running on a different platform and framework, know and agree on the format that allows them to read and understand the data.

The image features a large, stylized 'XML' logo in white, set against a bright orange rectangular background. This orange box is framed by a thick orange border. The entire graphic is positioned over a light gray document icon that has a folded top-right corner and faint horizontal lines representing text. Below the logo, there is a text block on the same document background.

XML

XML shortcut means an **Extensible Markup Language
and play very important role in many IT System**

XML

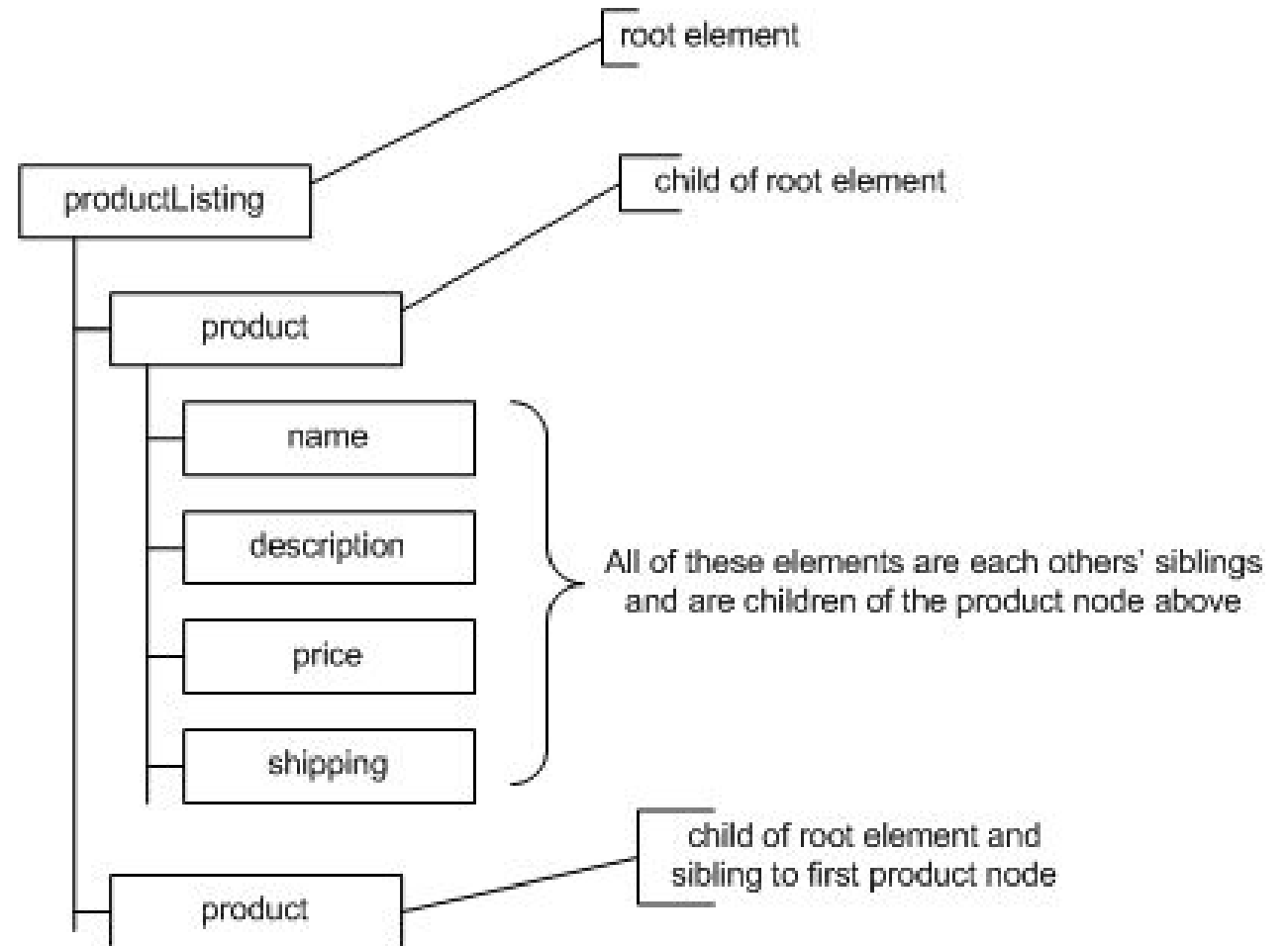
- All XML tags are predefined by developer to carry data.
- XML is very helpful to understand and manipulate an informations that could be use by computer in the concept of programming.
- XML is a way to store and exchange data in a known standard that is easy to create, readable and transferable between different types of platform, operating system or programs.

```
<?xml version="1.0"?>
<quiz>
  <qanda seq="1">
    <question>
      Who was the forty-second
      president of the U.S.A.?
    </question>
    <answer>
      William Jefferson Clinton
    </answer>
  </qanda>
  <!-- Note: We need to add
  more questions later.-->
</quiz>
```

XML

The logical structure of an XML document

- Is a tree, we should be able to travel up and down it, and from side to side, with relative ease
- From a programmatic stance, most of the work with XML will focus on properly creating and navigating XML structures.
- All entities, elements, and attributes are case sensitive.



Summary of XML

In the previous slides, I covered the basics of XML – essentially, most of the information you'll need to know to get a handle on this exciting technology.

- *It simplifies data sharing*
- *It simplifies data transport*
- *It simplifies platform changes*
- *It simplifies data availability*



Many years ago, XML was the primary data interchange format. Over the years in the digital world has appeared many more data exchange document formats. One of them is JSON, which is considered to be best solution for web services now.

These factors stands that the future is really bright for JSON.

JSON - Who is responsible?

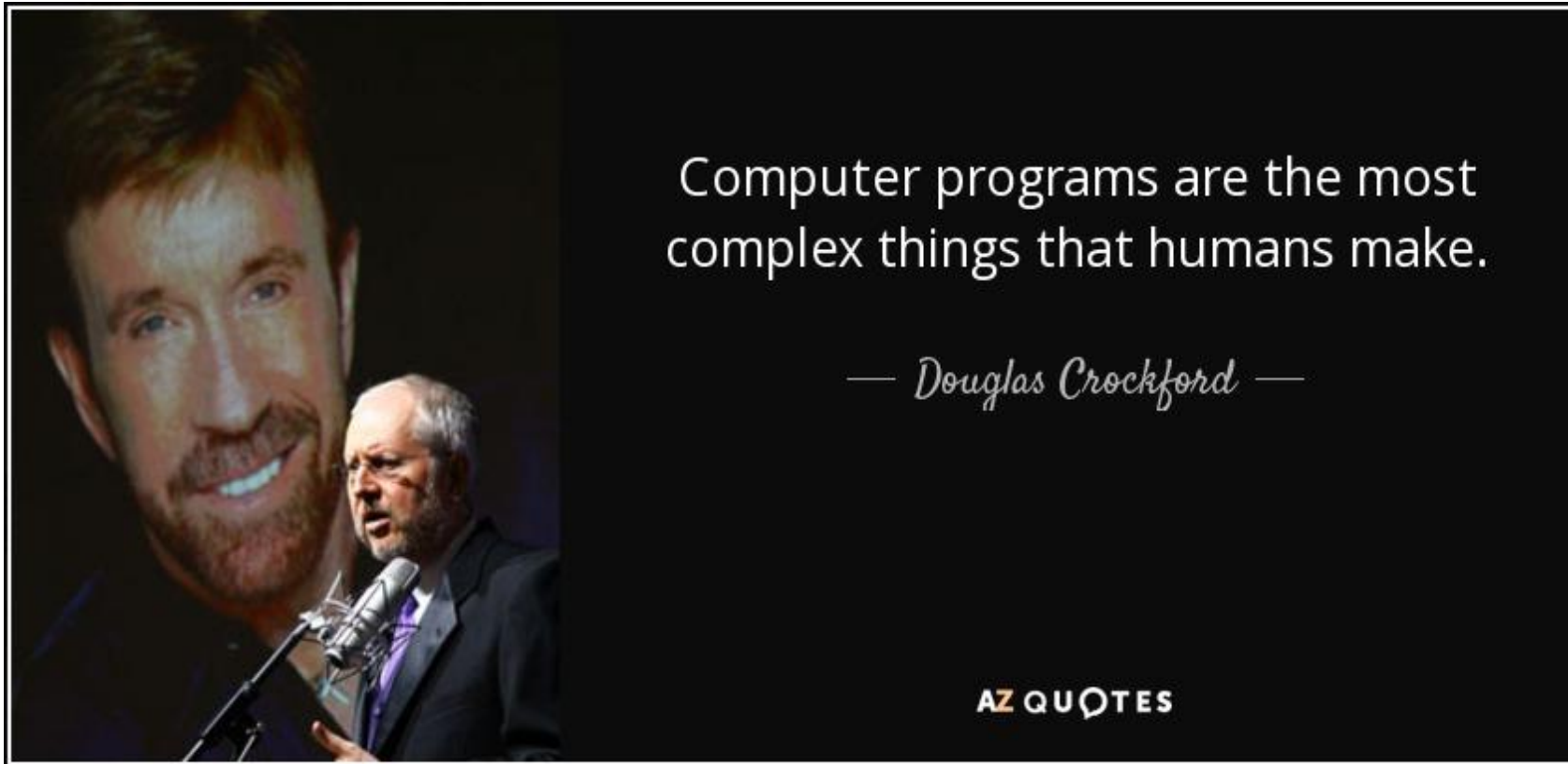
Douglas Crockford (1955 -)



Recommended read (150 pages), **JSON is specified in the last chapter**



Are programs easy to create ?



JSON is all about simplicity though

JavaScript Object Notation

JavaScript Object Literal

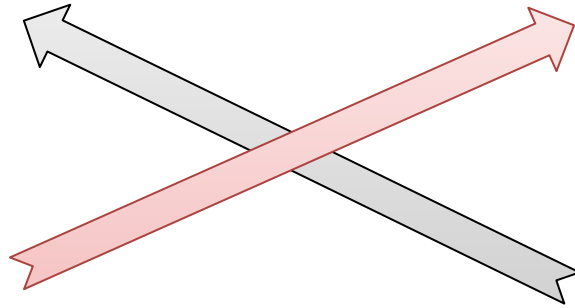
```
var person = {  
  firstName : "John",  
  lastName : "Doe",  
  age : 50,  
  eyeColor : "blue"  
};
```

JSON.stringify(person)

JSON format

```
var personJSON = '{  
  "firstName" : "John",  
  "astName" : "Doe",  
  "age" : 50,  
  "eyeColor" : "blue"  
}';
```

JSON.parse(personJSON)

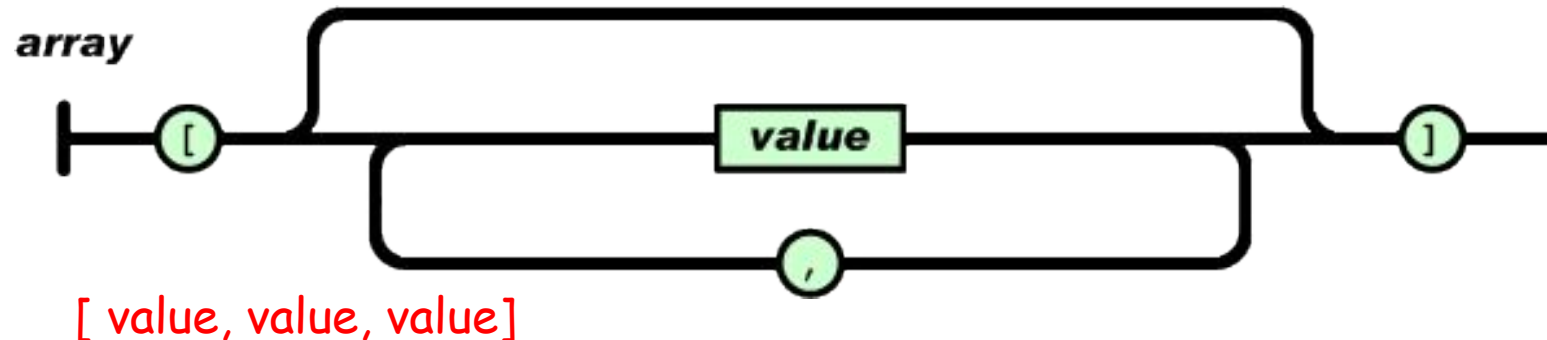
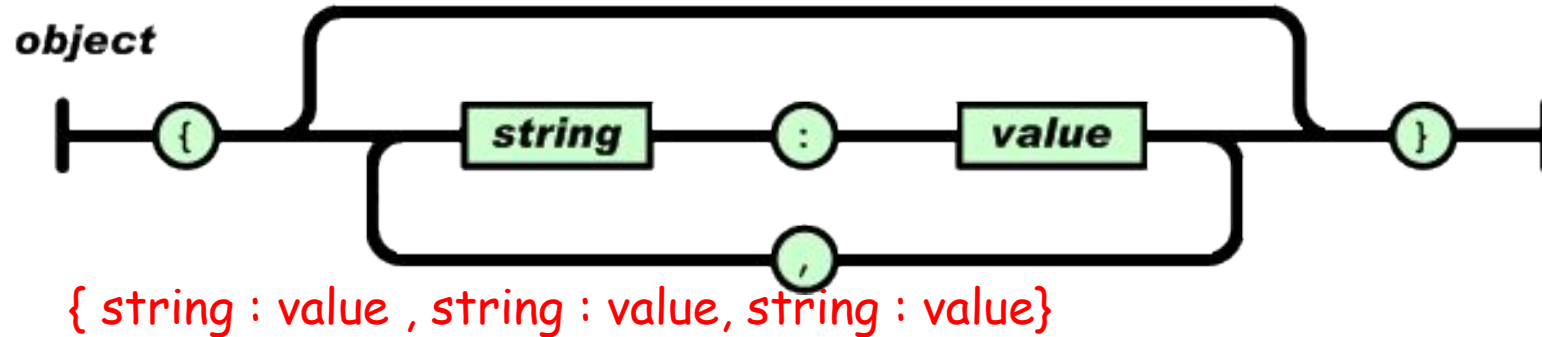


<http://jsonlint.com/>

<http://www.json.org/>

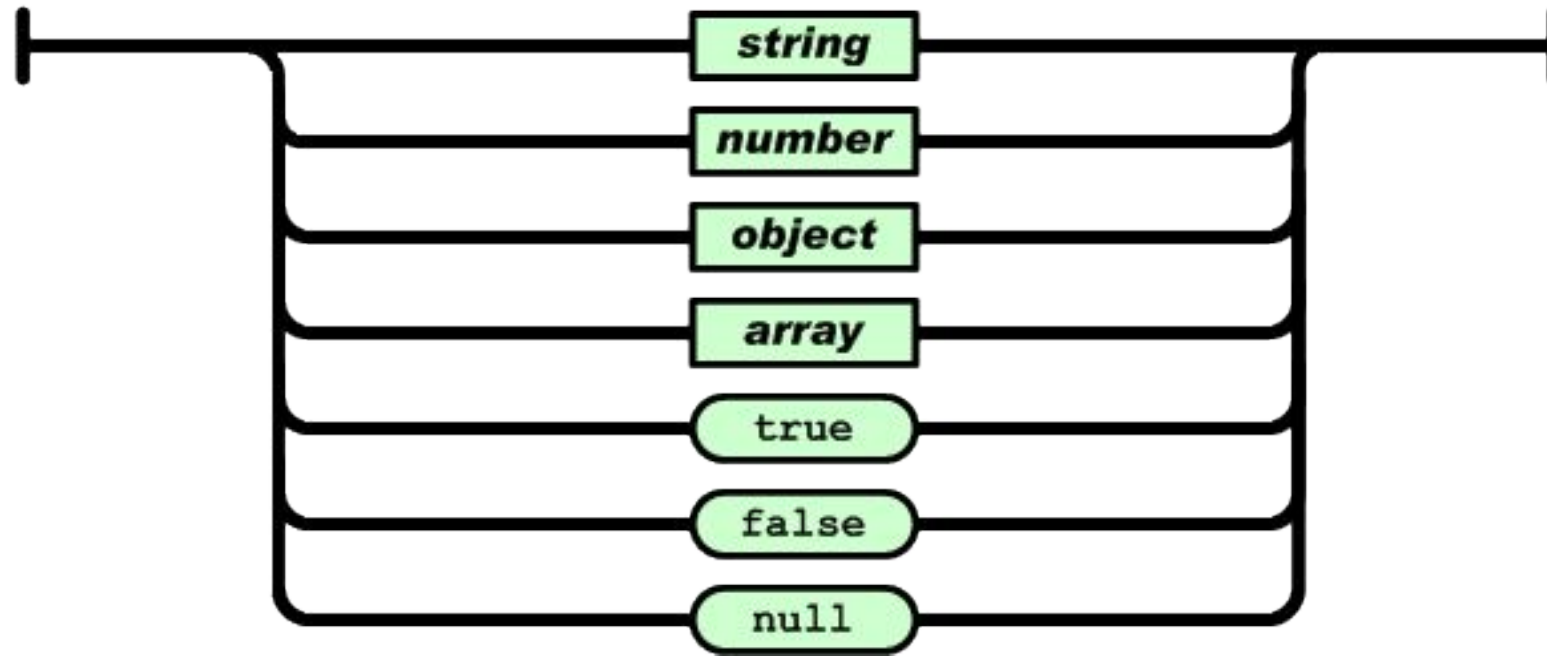
JSON is built on two structures:

- A collection of name/value pairs = **object**
- An ordered list of values = **array**



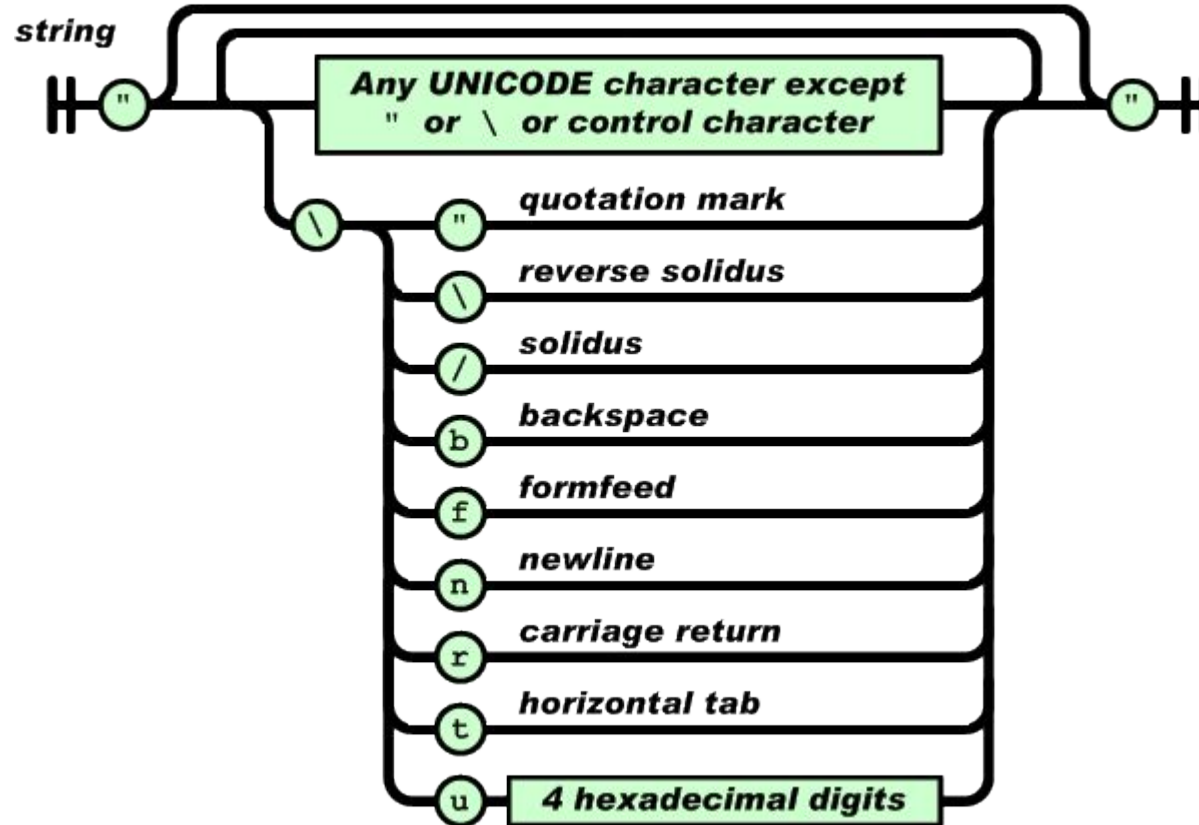
value

value



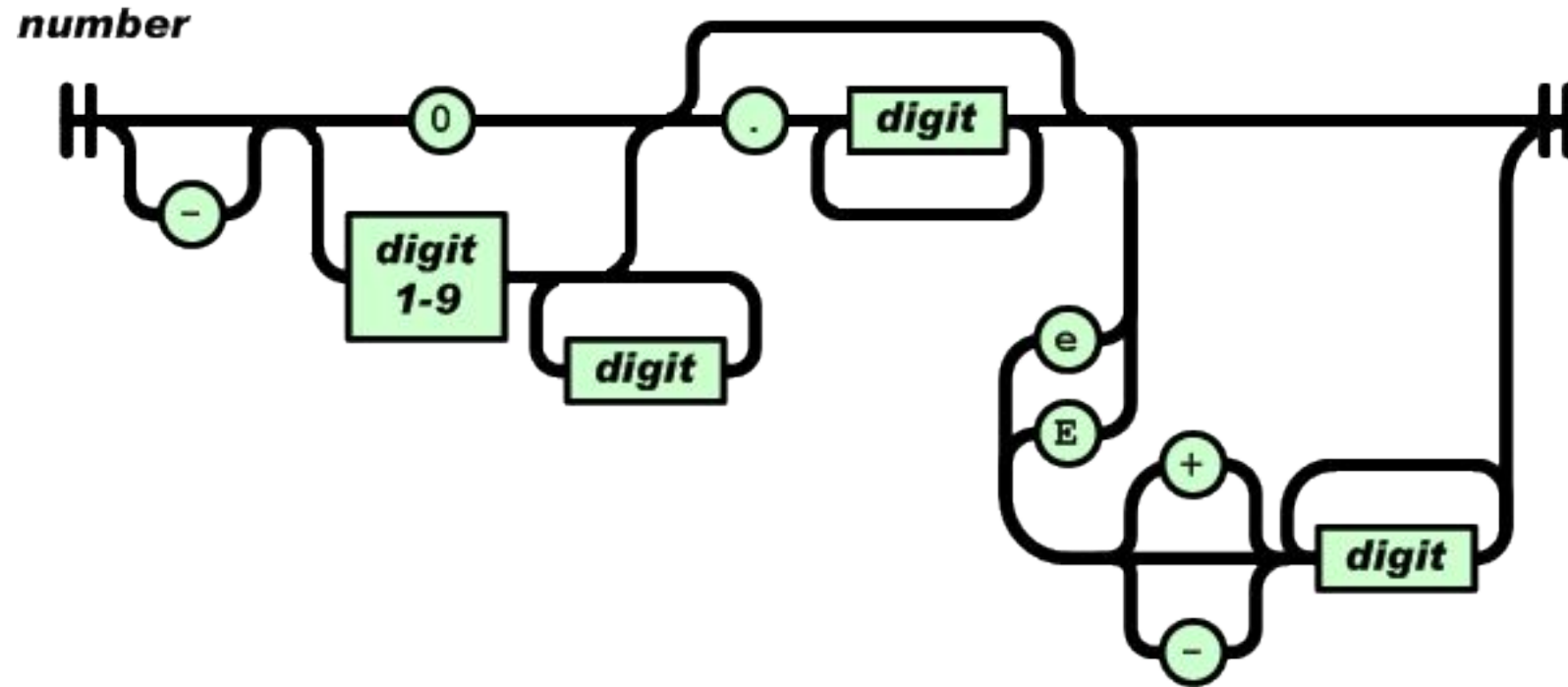
[null, true, false, { "key" : null }, [true, false]]

string



["some text" , "\"", "\/\\b\\f\\n", "\\uffff"]

number



[123, -15.2 , { " crazy number" : -0.5e-8 }]

Example

```
1 {  
2   "menu": {  
3     "id": "file",  
4     "value": "File",  
5     "popup": {  
6       "menuitem": [{  
7         "value": "New",  
8         "onclick": "CreateNewDoc()"  
9       }, {  
10        "value": "Open",  
11        "onclick": "OpenDoc()"  
12      }, {  
13        "value": "Close",  
14        "onclick": "CloseDoc()"  
15      }]  
16    }  
17  }  
18 }
```

Conclusion

- JSON is a **lightweight serialization** format designed for JavaScript programming language.
- One of the design ideas behind JavaScript is to provide very **fast start** up of a script.
- JSON fits this idea well with its conciseness and **direct mapping** to JavaScript object literal.
- JavaScript is a **language of conventions** and so is JSON.
- By a convention, object's **functions should not be serialized**.
- JSON doesn't support metadata or WSDL alternative and so there must be a **consensus** between the client and server on what data is given JSON representing.