

# Understanding Markup Languages: Rules and Examples

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December 14, 2023

## 1 What is a Markup Language?

Markup languages are systems for annotating a document in a way that is syntactically distinguishable from the text. They use tags to define elements within a document, making the document structure decipherable by machines.

## 2 Basic Rules of Markup Languages

1. **Tag Usage:** Markup languages use 'tags' to annotate text. Tags usually come in pairs: an opening tag and a closing tag.
2. **Nesting:** Tags must be properly nested. An inner tag should be closed before its outer tag is closed.
3. **Case Sensitivity:** In some markup languages like XHTML, tags are case-sensitive.
4. **Attribute Assignment:** Elements can have attributes, which provide additional information. Attributes should be assigned within the opening tag.

## 3 Examples of Markup Language

### 3.1 HTML Example

```
<!DOCTYPE html>
<html>
<head>
  <title>Page Title</title>
</head>
<body>
  <h1>This is a Heading</h1>
  <p>This is a paragraph.</p>
```

```
<a href="https://www.example.com">This is a link</a>
</body>
</html>
```

### 3.2 XML Example

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
  <to>User</to>
  <from>Sender</from>
  <heading>Reminder</heading>
  <body>Don't forget the meeting!</body>
</note>
```

## 4 Best Practices in Writing Markup

- Always close tags.
- Nest tags correctly.
- Use tags semantically.
- Include mandatory tags like `<!DOCTYPE>` in HTML.
- Use lowercase for tags and attributes in HTML5.
- Enclose attribute values in quotes.