XML ADVANTAGES

- Extensible
  - Add your own tags

  ```xml
  <color>
  <red></red>
  <green></green>
  <blue></blue>
  </color>
  ```

- Interoperable
  - XML has no dependencies on
    - Operating System
    - Language
    - Data source

- Self Describing
  - Data describes itself
  - Structure is easily identified

  ```xml
  <employee>
  <name>Jake</name>
  <salary>25000</salary>
  <region>Ohio</region>
  </employee>
  ```

XML DISADVANTAGES

- Main Disadvantage
  - Well structured, but no 'markup' or manipulation
    - This is where XSL comes in

XML

- Each box in the flow chart is a container
  - Containers are also known as ELEMENTS
    - What tags you are wrapping text in
    - What your data talks about

  ```xml
  <name>Jake</name>
  ```
For the CGT Dept., the XML structure between the faculty tags would repeat ~20 times. Why? 
• There are ~20 faculty members in CGT

Faculty vs Staff

- Staff
  - May not have as many elements as faculty
    - courses
    - links
    - May or may not have a bio
    - publications
**Big Picture**

- Perhaps your root is technology:

```xml
<technology>
  <bcmEmployee>
    ...
  </bcmEmployee>
  <cgtEmployee>
    ...
  </cgtEmployee>
  <cptEmployee>
    ...
  </cptEmployee>
</technology>
```

**HTML, CSS, XML, XSL**

- HTML
  - Formatting without structure
- CSS
  - Added formatting without structure
- XML
  - Structure without formatting
- XSL
  - Add formatting to XML

**FORMATTING XML WITH CSS**

- XML can be formatted with
  - HTML
  - CSS
  - XSL (Extensible Stylesheet Language)
    - XSL is to XML what CSS is to HTML
    - Kind of...
  - CSS can be applied to an XML document

```xml
<?xml-stylesheet type="text/css" href="mystyles.css"?>
```

**XML AND XSLT**

- XML – Extensible Markup Language
- XSLT – Extensible Style Language Transformations

- Well-formed
  - Adheres to rules we described earlier
  - Same rules we have followed all semester
- Valid
  - Is well-formed, but adheres to something called a schema

**XSL Transformation**

- XML
- CSS
- XSL

**XML and XSL**

- XML CSS Example
- XSL Example 1
- XSL Example 2
- orgChart example