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| MSU Virtual Lab Assistant Readable Format Syntax and Schema requirements / Styling Guidelines |

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# **Introduction:**

This document outlines the styling guidelines, schema requirements, and syntax involved in creating a lab file for the MSU Denver Alexa Virtual Lab Assistant. Note the following: the syntax must be followed **exactly** for the file to function correctly (see §2.0.0), there are required and optional aspects of the schema that will be underlined in the section on schemas (see §3.0.0), the styling guidelines are optional but strongly recommended to maintain consistency across all files and readability of the file for future maintainability (see §4.0.0).

# **<§1.0.0> Creating A New File:**

Using any text editor or word processor create a new plain text file (file extension should be .txt). Ensure that the file extension is **not** .doc, .docx, .odt, or .rtf. The recommended text editor is notepad/notepad++ (Windows) or TextEdit (Mac Os). You may also use MS Word or Google Docs and download/save the file however ensure that you download/save it as a plain .txt file.

# **<§2.0.0> Syntax:**

The syntax of a VLA readable lab is the set of rules that provide structure so that the VLA is able to unambiguously interpret the lab document. The syntax must be followed exactly or the VLA will be unable to read the file.

## **<§2.1.0> White Space:**

Syntactically speaking, all whitespace including spaces, tabs, and newlines are ignored by the VLA and will have no effect on the way the VLA reads the lab. However, there are recommended uses of whitespace in the style section (see Sec#).

## **<§2.1.0> Tags:**

Tags are a way for the VLA to understand what type of data you are providing it. This is important because different kinds of data need to be processed and used accordingly.

The first thing to note about tags is that anything you write in the file, with the exception of comments (see §2.2.0), must be enclosed inside of a set of tags, called a block (see §2.1.3). Each block is made of two parts: an opening and closing tag. These two tags tell the computer where a certain piece of data begins and ends.

An opening tag is denoted by putting the tag name inside of a less-than and greater-than symbol. A closing tag is denoted exactly the same in addition to a forward slash in front of the tag name.

See the example on the next page.

Note that tags can not have any spaces, the opening and closing tag must have the same name, and capitalization does not affect the tag but can be used for styling (see Sec#).

Form: <tagName> </tagName>

Example use of Tags:

<materials>

250 mL beaker

wash bottle

distilled water

</materials>

### **<§2.1.1> Types of Tags:**

Required Tags: Required tags must be present in a file for the VLA to detect the file (see Sec#). For example, the VLA will not detect files missing a title block tag i.e. <title></title> tag.

Optional Tags: Optional tags are meant to enhance or add to the user's experience. An Example of this type of tag is the <equation></equation> tag.

See section on schemas (Sec#) for more information on types of tags.

### **<§2.1.2> Labels:**

Labels are Ignored by the VLA and used to make the document more readable. You can apply a label to a tag by putting a colon after the tag name and before your label. The closing greater-than sign, >, of the tag will be used as the delimiter for the label name. There are no restrictions on label names and can be more than one word see (Sec#) for more information on the label. Note that you can only put a label in the **opening** tag.

Form: <tagName: label> </tagName>

Example Use of Label:

<materials: Lab One Materials>

250 mL beaker

wash bottle

distilled water

</materials>

### **<§2.1.3> Blocks:**

Blocks are a name for a section of the VLA readable lab which are enclosed between an opening and closing tag. All text, with the exception of comments, must be closed within a block.

Certain blocks can be nested inside of other certain blocks. These types of blocks are called sub-blocks.

If a block supports having sub-blocks it can have as many sub-blocks in sequence as the author desires. If a block contains a sub-block, then all block contents of the outer block must come before any of the sub-blocks.

## **<§2.2.0> Comments:**

A comment is denoted by putting a pound symbol (#) before some text. When a # is placed on a line, all the text after the symbol will be considered a comment and be ignored by the VLA but only for that line. Multi-line comments will need a pound symbol for each line of the comment. A comment can be placed anywhere in a file but must be on its own line. To see the uses and purpose of comments see (Sec#).

Example of comment:

# This is a comment

# **<§3.0.0> Schema:**

## **<§3.1.0> Requirements:**

# **<§4.0.0> Style:**