AutoLISP Has a New Home:
Get to Know Visual Studio Code
SD466922

Matt Worland
Senior Application Engineer/Developer | @mattworland
Matt Worland
@mattworland

AUGI Member
AutoCAD All-Star Mentor
Former Designer turned Trainer & Consultant
Senior Application Engineer/Developer for ECE Design
Learning Objectives

• Learn how to implement Visual Studio Code for AutoLISP.
• Learn how to develop code efficiently with IntelliSense and Code Snippets.
• Learn how to create custom code snippets.
• Learn how to debug AutoLISP code effectively.
Why use VS Code
Benefits of VS Code

• IntelliSense & Snippets
• Keyboard Shortcuts
• Extensions
• Version Control
• Open Source
• It’s the future
Install and use VS Code
Install Wizard

Autodesk makes it easy to start with VS Code with their Wizard

- Choose Microsoft Visual Studio Code and the AutoCAD AutoLISP Extension
- If VS Code is not installed, you are prompted to download and install
- If the AutoCAD AutoLISP Extension is not installed, you are prompted to download and install
Select the AutoLISP environment that is to be started with the VLIDE command.

→ Microsoft Visual Studio Code and the AutoCAD AutoLISP Extension
   Visual Studio Code is a lightweight modern development environment that allows you to develop and debug AutoLISP and other types of programs.

→ AutoCAD Visual LISP
   Visual LISP allows you to develop and debug AutoLISP programs. (Legacy behavior)

For additional information, See Handout or Recording
Install Manually

Switching to use Visual Studio Code

- LISPSYS
  - 0 = VL IDE
  - 1 = Compiles Code for 2021 and later
  - 2 = Compiles Code for 2021 and previous

- Download and Install VS Code:
  - https://code.visualstudio.com/

- Download and Install AutoLISP Extension
For additional information, See Handout or Recording
IntelliSense & Code Snippets
IntelliSense

• Find functions quickly
# Code Snippets

- Insert chunks of code quickly

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>(defun</code></td>
<td>define a lisp function</td>
</tr>
<tr>
<td><code>(defun c:</code></td>
<td>define a lisp function as AutoCAD command</td>
</tr>
<tr>
<td><code>abs</code></td>
<td>Returns the absolute value of a number</td>
</tr>
<tr>
<td><code>alert</code></td>
<td>Displays a dialog box containing an error or warning message</td>
</tr>
<tr>
<td><code>alloc</code></td>
<td>Sets the size of the segment to be used by the expand function</td>
</tr>
<tr>
<td><code>angle</code></td>
<td>Returns an angle in radians of a line defined by two endpoints</td>
</tr>
<tr>
<td><code>append</code></td>
<td>Takes any number of lists and appends them together as one list</td>
</tr>
<tr>
<td><code>apply</code></td>
<td>Passes a list of arguments to, and executes, a specified function</td>
</tr>
<tr>
<td><code>arc</code></td>
<td>arc command expression</td>
</tr>
<tr>
<td><code>ascii</code></td>
<td>Returns the conversion of the first character of a string into its Unicode character code (an integer)</td>
</tr>
</tbody>
</table>
Structure of a Code Snippet

"iterate active document":
{
    "prefix": "vforActiveDocument",
    "body":
    [
        "(vlax-for layouts (vla-get-layouts (vla-get-activedocument (vlax-get-acad-object))))",
        "\t(vlax-for object (vla-get-block layouts)",
        "\t\t${1:(GoDoGood)}",
        "\t)",
        "\n"
    ],
    "description": "iterate the active document"
},

Each snippet is separated by a comma. This is omitted for the last snippet
For additional information, See Handout or Recording
Writing Code
For additional information, See Handout or Recording
Debugging
Debugging Types

• AutoLISP Debug: Attach
  • Attach Process
    • Windows: acad
    • Mac OS: AutoCAD

• AutoLISP Debug: Launch
  • Launch Parameters: /product PLNT3D /language "en-US" /P Plant3D_2021
  • Launch Program: C:\Program Files\Autodesk\AutoCAD 2021\acad.exe
For additional information, See Handout or Recording
Summary
Summary

• LISPSYS
  • 1 = Compiling 2021 and later
  • 2 = Compiling 2021 and previous
• Use and create Code Snippets
• Embrace the change and help drive the enhancements
Additional Information

• Download the handout and files from the class page
  • Or from here: https://tinyurl.com/SD466922

• Which Editor to Use for AutoLISP Development: Notepad to Visual Studio Code

• https://www.amazon.com/AutoCAD-2021-VS-Code-update-ebook/dp/B088N7NHT3
Live session during the week of AU 2020

Use the Comment link in the class page

https://www.linkedin.com/in/mattworland/
cadhelp@mattworland.com
@mattworland

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