

# INSTALLING JOGL & JOML on WINDOWS for CSc-155

*Note – these steps are unnecessary if you performed the CSc-165 TAGE installation*

## **1. Download and Install Java JDK version 17**

This is available on the Oracle website. You need the *JDK*, not just the *JRE*.

After installing, look for where Oracle put it. Usually, that is `C:\Program Files\Java\jdk-17`

## **2. Modify your PATH environment variable**

Go into the Control Panel ► System ► Advanced System Settings ► Environment Variables.

Under *System Variables*, open the *PATH* variable.

There is likely to be an entry that reads: `C:\Program Files\Common Files\Oracle\Java\javapath`

Replace that entry with Java's "bin" folder. Usually, that is `C:\Program Files\Java\jdk-17\bin`

## **3. Create a folder to hold OpenGL-related libraries**

preferably: `C:\javagaming` Create this folder, then make two subfolders: "jogl" and "joml"

## **4. Download JOGL version 2.5.0 and install it**

Go to "jogamp.com".

On the right, under "Builds / Downloads", to the right of "2.5.0", click on "fat".

Download the file "jogamp-fat.jar"

Put that file in the "jogl" folder that you created previously in step 3.

## **5. Download JOML and install it**

Go to "github.com/JOGL-CI/JOGL".

On the far right, click on the icon for "releases". Scroll down to the latest version that has a .jar file.

(at the time of this writing, it is "joml-1.10.7.jar"). Download the .jar file.

Put that file in in the "joml" folder that you created previously in step 3.

## **6. Create a CLASSPATH variable (if you don't already have one)**

Go back into the Control Panel ► System ► Advanced System Settings ► Environment Variables.

Under *System Variables*, see if there is a variable named *CLASSPATH*.

If there isn't, then create one by clicking the "New..." button.

In the "name" field, type in *CLASSPATH*. In the "value" field, type in a period (".") by itself.

## **7. Add JOGL and JOML to the CLASSPATH variable**

While still in the Environment Variables, open up the *CLASSPATH* variable by double-clicking it.

You may see a table entry tool, or you may see the previous dialog box from step 6(a).

Add entries for the JOGL and JOML .jar files, after the single "." entry. These should be *full paths*.

For example, if entering them using the list screen, the entries would look like this:

```
.
C:\javagaming\jogl\jogamp-fat.jar
C:\javagaming\joml\joml-1.10.7.jar
```

If you are entering them in the single line dialog box, separate them with semi-colons, like this:

```
.;C:\javagaming\jogl\jogamp-fat.jar;C:\javagaming\joml\joml-1.10.7.jar
```

*Note that changes to environment variables don't take effect until rebooting.*

*(alternatively, you can open a new command window and work from there)*

## **Test your installation:**

1. Download and uncompress the "Tumbling Cube" program from your instructor's website.
2. Open a new command window and migrate to the folder containing the "Tumbling Cube" program
3. Type "compile" – there shouldn't be any compiler errors or warnings.
4. Type "run" – you should see a tumbling multi-colored cube.

You can continue to use these "compile" and "run" batch files in your projects.