

Matrix Operations and the “Current Matrix” Stack

Initial Contents of “current matrix” stack	perform <i>one</i> of the following thirteen operations	For any of these first eight, OpenGL will initially:	Final contents of “current matrix” stack
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{M}_{top} \\ \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>	glRotate* glScale* glTranslate* --- gluLookAt --- glFrustum glOrtho gluOrtho2D gluPerspective	create a matrix, \mathbf{N} , to perform the specified transformation	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{M}_{top} * \mathbf{N} \\ \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>
	glMultMatrix*(\mathbf{N})		
	glLoadMatrix*(\mathbf{N})		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{N} \\ \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>
	glLoadIdentity()		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{I} \\ \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>
	glPushMatrix()		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{M}_{top} \\ \mathbf{M}_{top} \\ \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>
	glPopMatrix()		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $\begin{matrix} \mathbf{M}_{prev} \\ \vdots \end{matrix}$ </div>