A02 – Basic transforms

The Vulkan application whose source code is contained in file `A02.cpp`, shows a 6 pieces jig-saw puzzle that can be solved by creating the matrices that perform the transformations requested in file `transforms.hpp`.

Piece	Transform
1	translate 2 along x, and 3 along z
2	rotate -15 degrees around the z axis
3	mirror over the yz plane
4	perform a shear along the z axis, with hx = -0.5 (and hy=0)
5	scale of 2 along the x axis, and 1.25 on the z axis
6	perform a proportional scaling of a factor of 3

If you look at the code in `transforms.hpp`, you will see that all transforms are initialized to the identity matrix (which performs no transform), The goal is to modify such matrices to obtain the desired effect.

In this exercise, you cannot use any third-party library (not even the **GLMlibrary** that will be briefly presented in the next lessons) to build the matrices. You might however write your own functions to create the matrices, or make them with external tools such as Matlab and copy and paste the solutions in this assignment.

You can move the view using the same keys as in *Assigment0*:

ESC – quit the application			SPACE BAR – move to the next transform			
Q: roll left	**W**: forward	**E**: roll right	**R**: up		↑: look up	
A: left	**S**: backward	**D**: right	**F**: down	←: look left	↓: look down	→: look right