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/* Pseudo-code for translating a vertex */

/* Variable declaration. */
int I, j, k;

/* Dimensionalities of matrices to be multiplied. */
int row1=4, col1=4, row2=4, col2=1;

/* Translation increment. */
double tx=5;
double ty=4;

/* Matrix definitions – note static sizes.  This is OK, as these matrices will not vary in size!  Also, note
that the vertices are 4D: x, y, z, and "H" */
double t[15], vert[4], vertprime[4];

/* Assume translation by pressing the "t" key. */
if("t key is pressed")
{
        /* Decide coordinate direction for translation. */
        if("x key is pressed")
        {
                /* Is the translation positive or negative? */
                if("+ key is pressed")
                {
                        for(I = 0; I < 15; I++)
                        {
                                if(I == 0 || I == 5 || I == 10 || I == 15)
                                        t[I] = 1.0;
                                else if(I == 3)
                                        t[I] = +tx;
                                else
                                        t[I] = 0.0;
                        }
                }
                else if("- key is pressed")
                {
                        for(I = 0; I < 15; I++)
                        {
                                if(I == 0 || I == 5 || I == 10 || I == 15)
                                        t[I] = 1.0;
                                else if(I == 3)
                                        t[I] = -tx;
                                else
                                        t[I] = 0.0;
                        }

                }

        }
```

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        else if("y key is pressed")
        {
                /* Is the translation positive or negative? */
                if("+ key is pressed")
                {
                        for(I = 0; I < 15; I++)
                        {
                                if(I == 0 || I == 5 || I == 10 || I == 15)
                                        t[I] = 1.0;
                                else if(I == 7)
                                        t[I] = +ty;
                                else
                                        t[I] = 0.0;
                        }
                }
                else if("- key is pressed")
                {
                        for(I = 0; I < 15; I++)
                        {
                                if(I == 0 || I == 5 || I == 10 || I == 15)
                                        t[I] = 1.0;
                                else if(I == 7)
                                        t[I] = -ty;
                                else
                                        t[I] = 0.0;
                        }

                }

        }
        else
        {
                "do some error processing"
        }

/* Finally, process the translation – just multiply matrices, like on HW1!. */
for(i = 0; i < row1; i++)
        for(j = 0; j < col2; j++)
                matrix3[col2*i + j] = 0.;

for(i = 0; i < row1; i++)
{
        for(j = 0; j < col2; j++)
        {
                /* Note: col1 = row2 ! */
                for(k = 0; k < col1; k++)
                {
                        vertprime[col2*i + j] += t[col1*i + k] * vert[col2*k + j];
                }
        }
}

}
```