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Rendering Geometry

**Function that generates indices for geometry to be rendered using triangle strips.**

The function that generates indices takes in two ints. One for the number of points and the other for the number of meridians. Before creating the indices, some variables must be created. You need a vector of type unsigned int for the indices, a variable of unsigned int for the bottom left index, and a variable of type unsigned int for the bottom right index. Lastly you’ll need a variable of type int that we will call “start”.

Now we can begin creating the indices. We will need to create a nested for loop. This for loop will order the indices so that OpenGL can correctly connect the points together to draw the shape.

The first for loop will declare a new variable of type int, ‘i’, and initialize it with zero. The condition will be that ‘i’ is less than the number of meridians, which was passed in. The variable ‘i’ will increment by one every iteration of the loop. Before the next for loop runs, we assign our start variable to be ‘i’ multiplied by the number of points.

The second for loop will declare a new variable of type int, ‘j’, and initialize it with zero. The condition will be that j is less than the number of points. ‘j’ will increment by one every iteration of the loop. Within this loop the bottom left variable is assigned start + ‘j’. The bottom right variable is assigned the bottom left variable + number of points. The indices vector will then push back the bottom left variable and then it will push back the bottom right variable. Once the second for loop finishes executing, push back “0XFFFF”.

Once the for loops are finished executing, return the vector of indices.

**Full Code:**