

# Compute Element Matrix Array

- Next we compute the element matrices and fill them into the array
- `for(unsigned int t = 0; t < T; ++t)`
- `{`
  - `Es[t].m_blocks[0][0] = ... compute E_ii....;`
  - `Es[t].m_blocks[0][1] = ... compute E_ij....`
  - `...`
  - `Es[t].m_blocks[2][2] = ... compute E_kk....`
- `}`

# Do Matrix Assembly

- For getting easy started a matrix data type is provided in `util_coo_matrix.h` header file and for working with GLUE the header file `glue_matrix_assembly.h` makes it easy to transform a element matrix array into a global matrix
  - `bool interlaced = true;`
  - `util::COOMatrix<double> A =  
glue::matrix_assembly<double>(omega, Es,interlaced)`
- The last argument controls how the memory layout is generated. That is how x and y coordinates are mapped to global matrix indices.