

```

1  #include "/src/Definitions.h"
2  #include "MaterialModelHyperelasticity.h"
3  #include "MaterialModelLinearElastic.h"
4  #include "MaterialModelTests.h"
5  #include "PJ2Utilities.h"
6
7  // TODO: The typedef for the linear elastic model has been graciously provided here
8  //       Note, that for the finite deformation material model, you will have to change
9  //       this line
10 typedef MaterialModels::MaterialModelLinearElastic LinearElasticModel;
11 typedef MaterialModels::MaterialModelHyperelastic HyperElasticMaterialModel;
12
13 int main() {
14
15     printf("Testing MaterialModelLinearElastic in %lu dimensions \n\n", 3);
16
17     // Define constants that your material model will use, for example:
18     const double lambda = 1.33;
19     const double mu = 1.67;
20     const double youngsModulus = 4.0;
21     const double poissonsRatio = 0.23;
22
23     // Create a material model:
24     LinearElasticModel linearElasticModel(lambda,mu);
25     HyperElasticMaterialModel hyperElasticModel(youngsModulus,poissonsRatio);
26
27     // We feed your newly created materialModel to the material model test
28     //function defined in the namespace MaterialModels to confirm that it is correct
29
30     MaterialModels::testMaterialModelDerivatives<LinearElasticModel>(linearElasticModel)
31     ;
32
33     MaterialModels::testMaterialModelDerivatives<HyperElasticMaterialModel>(hyperElastic
34     Model);
35
36     //REMINDER: Functions from a namespace are accessed via
37     NameOfNamespace::FunctionName<class>(object)
38
39     return 0;
40 }

```