**Node Class Constructor**

**Arguments**

* node\_coord: 1x3 vector
* node\_number: double

**Computes/Stores**

* node\_coord: 1x3 vector
* node\_number: double

**Calls**

* AssignDOF()

**Returns**

* N/A

**GetNodeCoord()**

**Arguments**

* N/A

**Computes**

* N/A

**Returns**

* node\_coord: 1x3 vector

**Node Class**

**Properties**

* node\_coord: 1x3 vector
* node\_dof: 6x1 vector
* node\_number: double

**Public Methods**

* Constructor
* GetNodeCoord()
* GetNodeDOF()

**Private Methods**

* AssignDOF()

**AssignDOF()**

**Arguments**

* node\_number: double

**Computes**

* node\_dof: 6x1 vector

**Returns**

* N/A

**GetNodeDOF()**

**Arguments**

* N/A

**Computes**

* N/A

**Returns**

* node\_dof: 6x1 vector

**Element Class**

Properties

elementNodes: 1x2 vector

A: double

Izz: double

Iyy: double

J: double

Zzz: double

Zyy: double

E: double

v: double

webdir: 1x3 vector

distribLoad: 1x3 vector

length: double

gamma: 12x12 matrix

localStiffness: 12x12 matrix

globalStiffness: 12x12 matrix

element\_dof: 12x1 vector

Public Methods

Constructor

GetGlobalStiffness

GetElementDOF

Private Methods

Node Class Constructor

Arguments

node\_number: double

node\_coord 3x1 vector

Computes

node\_coord: 3x1 vector

node\_dof: 6x1 vector

node\_number: double

Calls

AssignDOF()

Returns

N/A

AssignDOF()

Arguments

Node: object

Computes

node\_dof: 6x1 vector

Returns

N/A

GetNodeCoord()

Arguments

Node: object

Computes

N/A

Returns

node\_coord: 3x1 vector

GetNodeDOF()

Arguments

Node: object

Computes

N/A

Returns

node\_dof: 6x1 vector