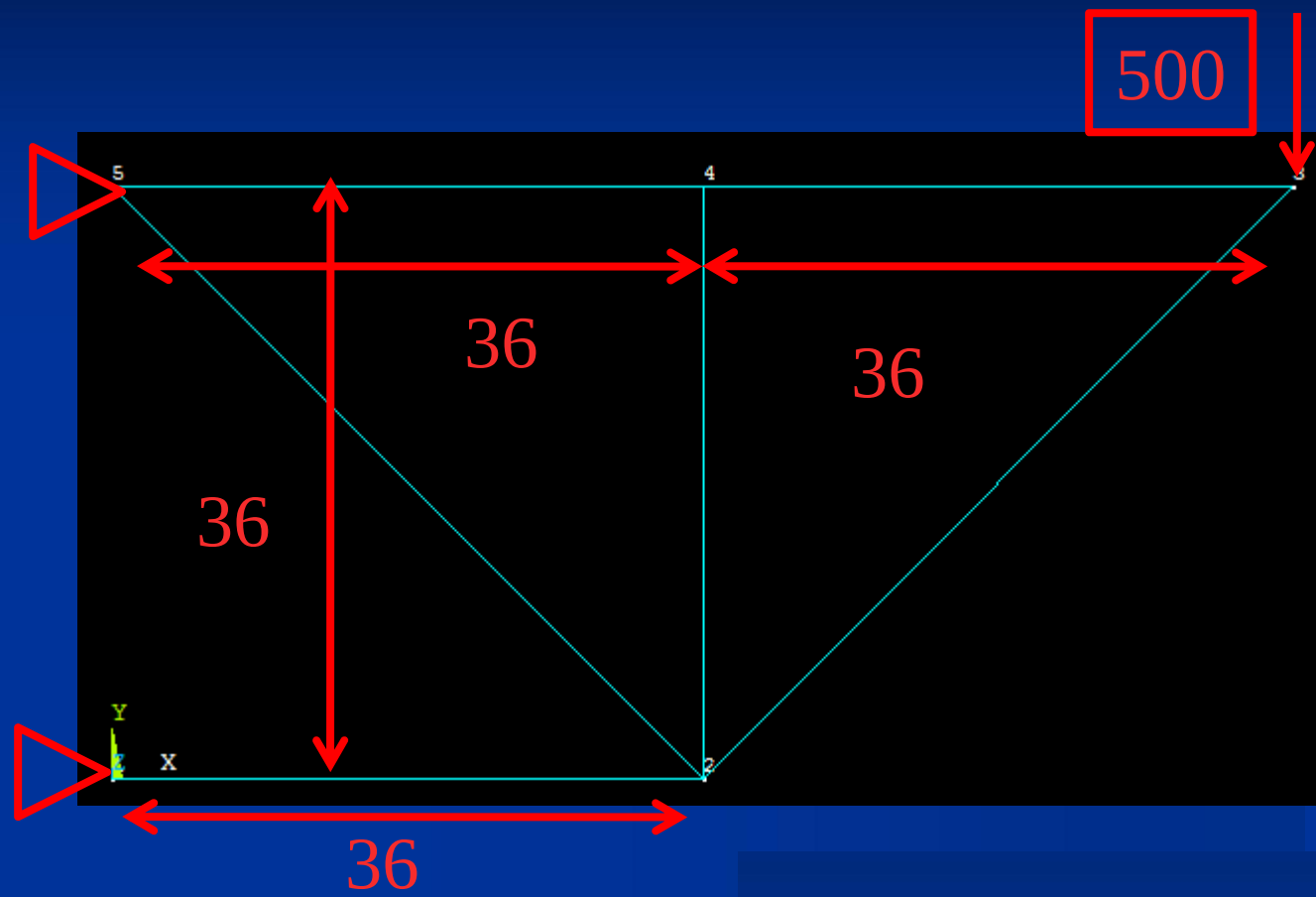
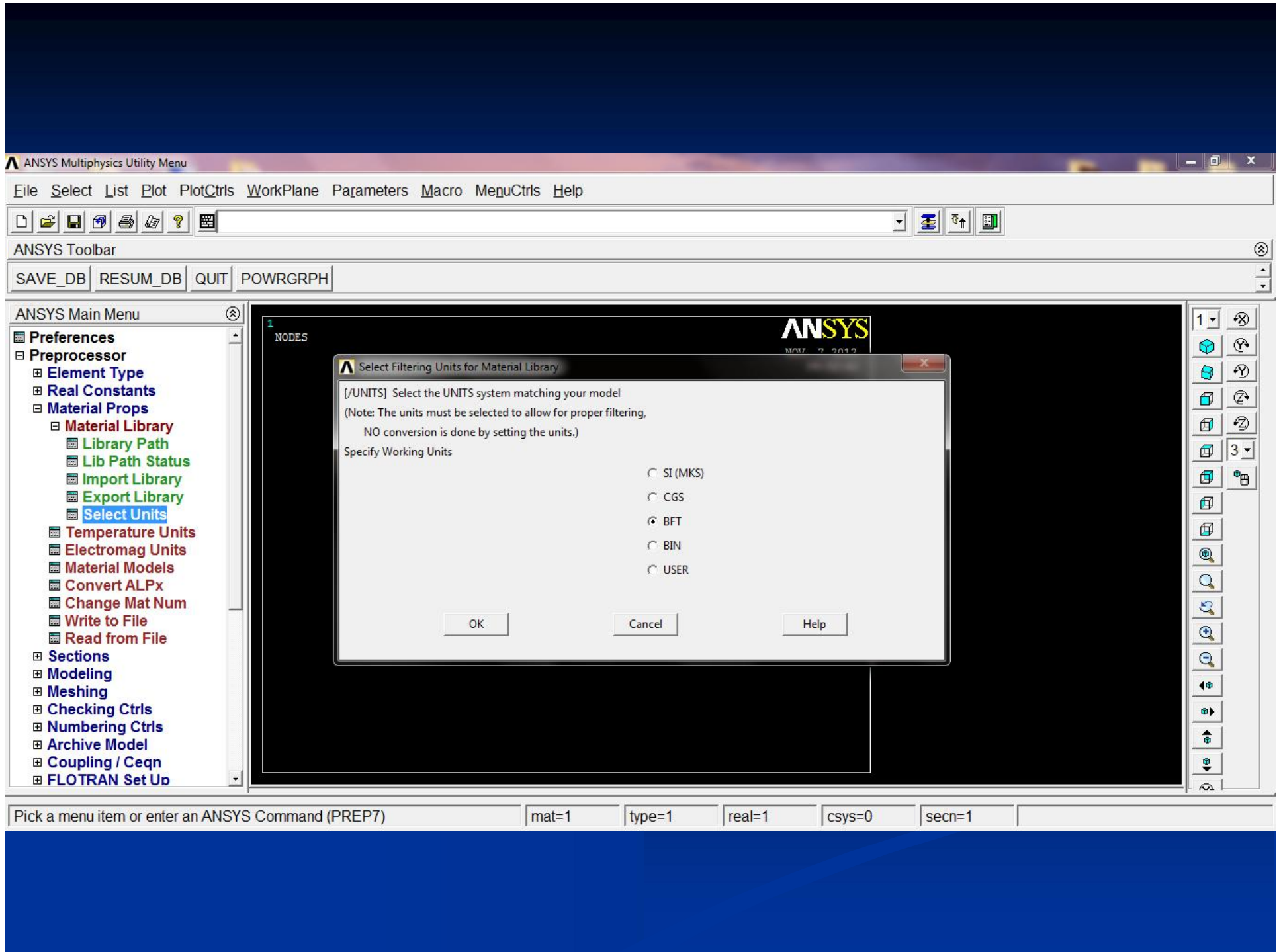
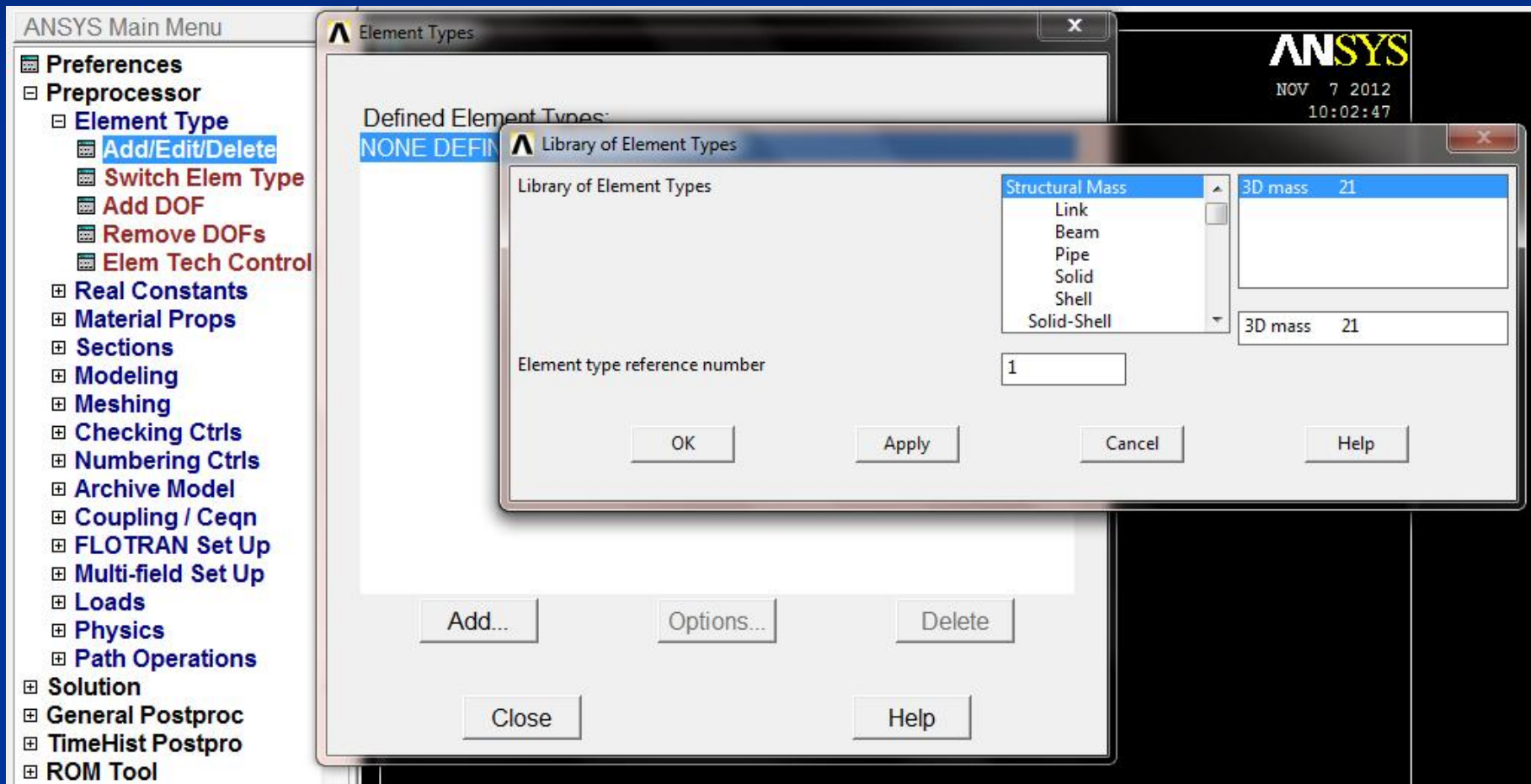
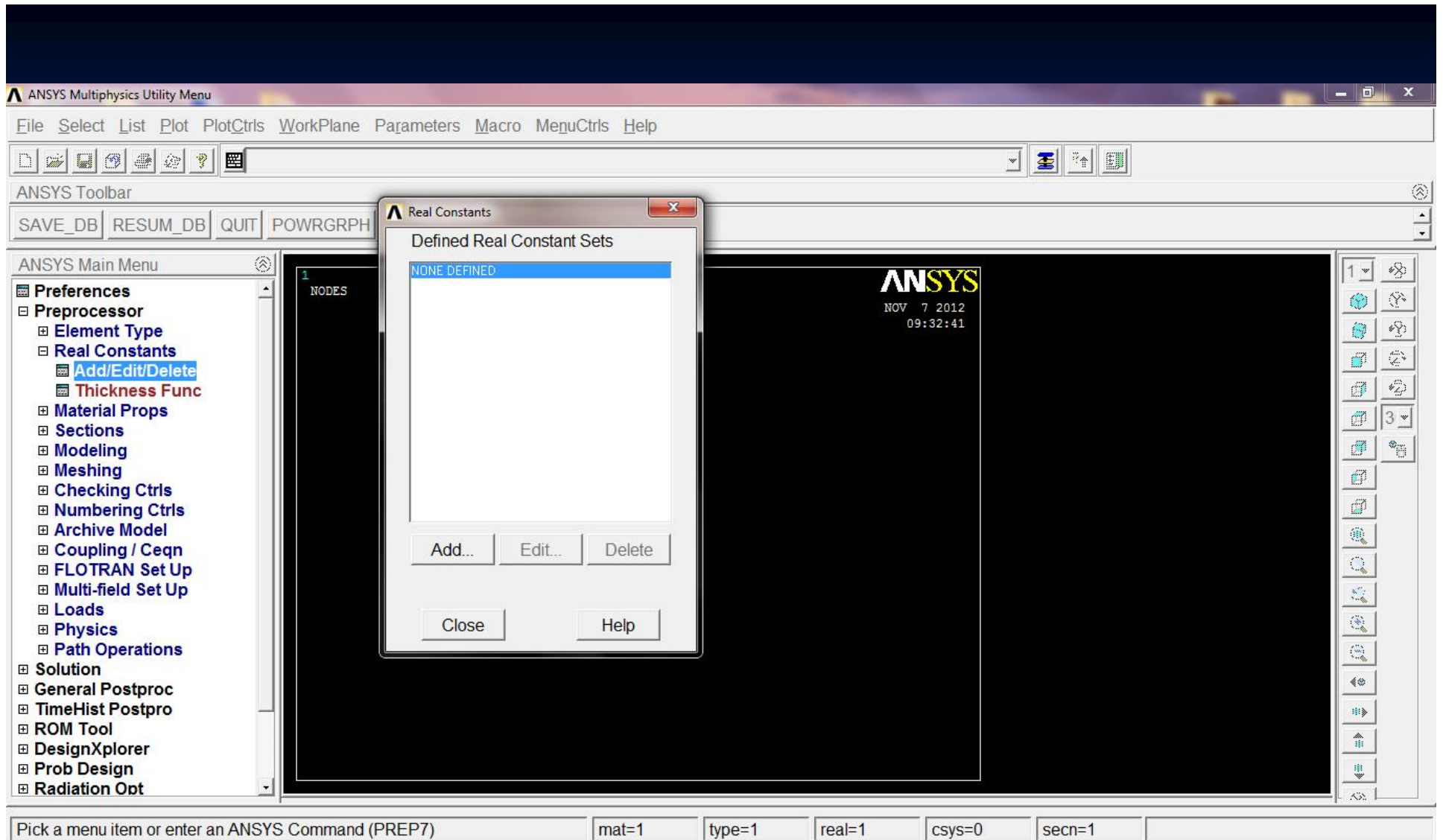












Real Constants

Defined Real Constant Sets

NONE DEFINED

Add... Edit... Delete

Close Help

Real Constant Set Number 1, for LINK180

Element Type Reference No. 1

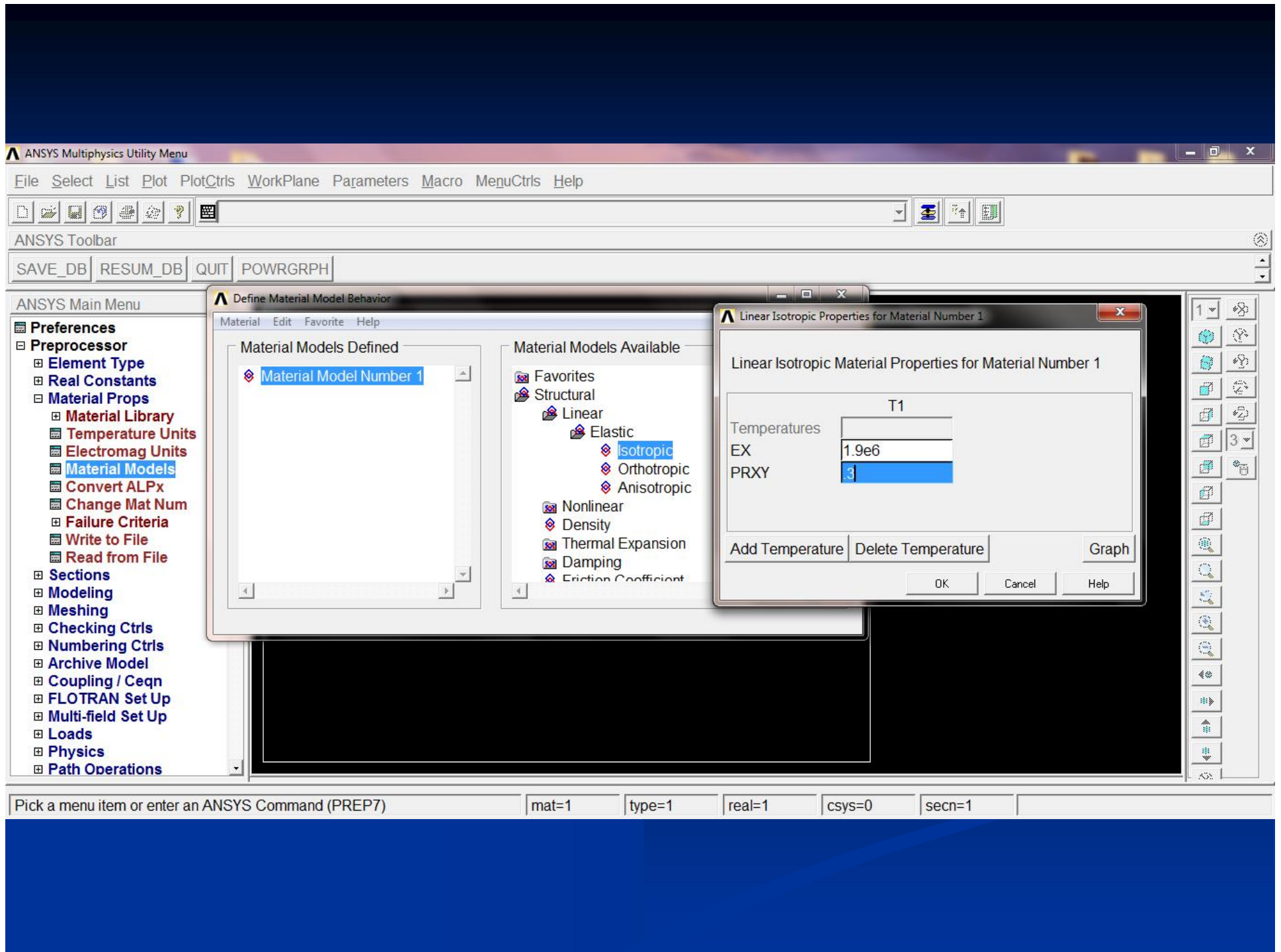
Real Constant Set No. 1

Cross-sectional area AREA

Added Mass (Mass/Length) ADDMAS

Tension and compression TENSKEY Both

OK Apply Cancel Help



ANSYS Main Menu

- Preferences
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 - Lines
 - Areas
 - Volumes
 - Nodes
 - On Working Plane
 - In Active CS**
 - At Curvature Ctr
 - On Keypoint
 - Fill between Nds
 - Quadratic Fill
 - Rotate Node CS
 - Write Node File
 - Read Node File
 - Elements
 - Contact Pair
 - Circuit

1
NODES

ANSYS
NOV 7 2012
09:37:55

5 4 3

2

1 2 3

4 5 6

7 8 9

10 11 12

13 14 15

16 17 18

19 20 21

22 23 24

25 26 27

28 29 30

31 32 33

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37 38 39

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43 44 45

46 47 48

49 50 51

52 53 54

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61 62 63

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67 68 69

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76 77 78

79 80 81

82 83 84

85 86 87

88 89 90

91 92 93

94 95 96

97 98 99

100 101 102

103 104 105

106 107 108

109 110 111

112 113 114

115 116 117

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1864 1865 1866

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2017 2018 2019

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2

ANSYS Main Menu

- Preferences
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 - Element Type
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 - Elements
 - Elem Attributes
 - Auto Numbered
 - Thru Nodes
 - At Coincid Nd
 - Offset Nodes
 - Surf / Contact
 - SpotWeld
 - Pretension
 - User Numbered
 - Write Elem File
 - Read Elem File

1
NODES

ANSYS
NOV 7 2012
09:37:55

5 4 3

Y
X

2

Elements from Nodes

☒ Pick ☐ Unpick

☒ Single ☐ Box

☐ Polygon ☐ Circle

☐ Loop

Count = 2
Maximum = 20
Minimum = 1
Node No. = 2

☒ List of Items

☐ Min, Max, Inc

OK Apply

Reset Cancel

Pick All Help

1

ANSYS

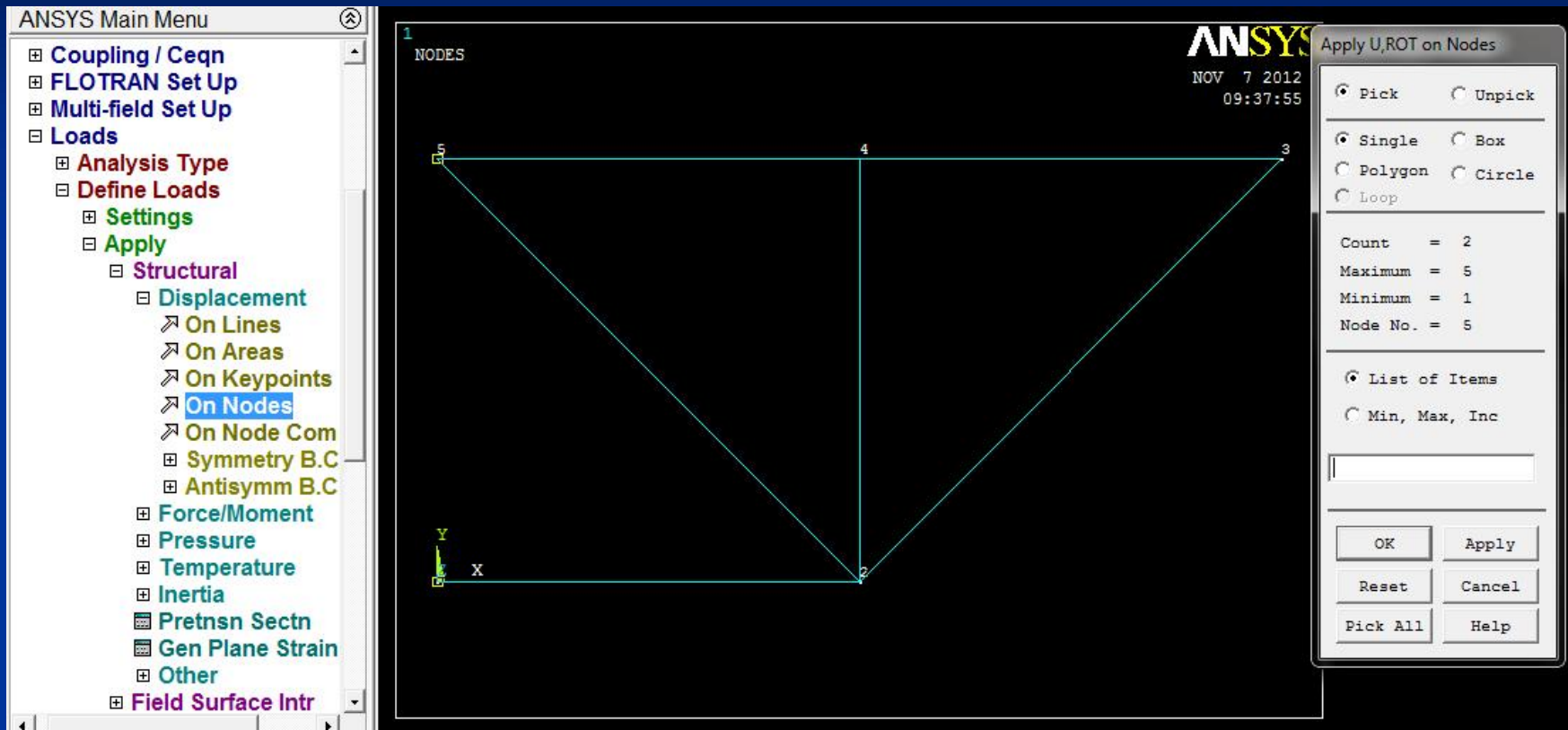
NOV 7 2012

09:37:55

5 4 3

Y
X

2



 Apply U,ROT on Nodes

[D] Apply Displacements (U,ROT) on Nodes

Lab2 DOFs to be constrained

Apply as

If Constant value then:

VALUE Displacement value

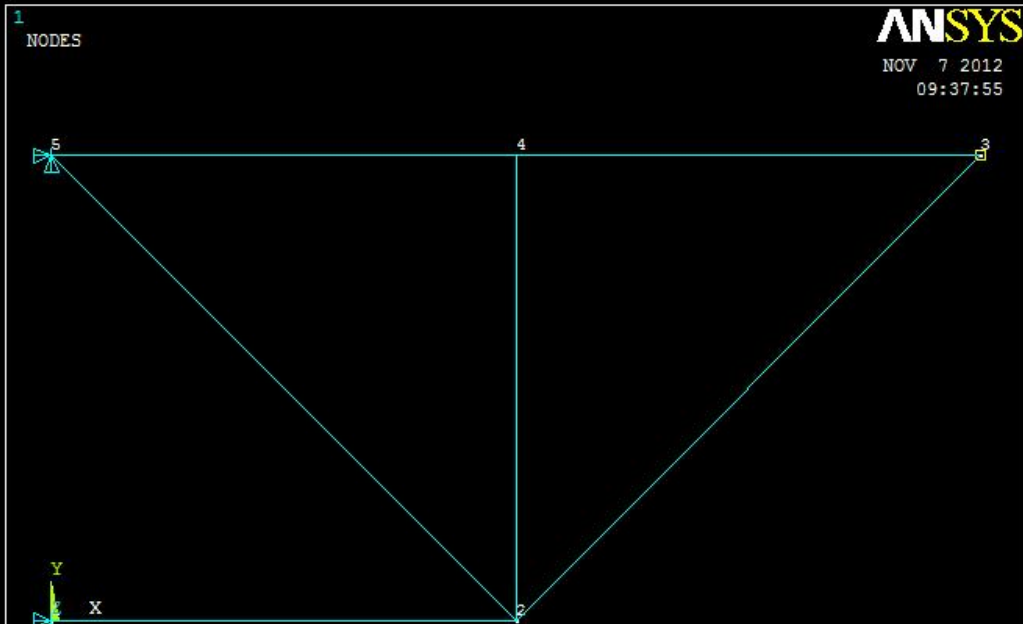
All DOF
UX
UY
UZ
VELX

Constant value

OK Apply Cancel Help

ANSYS Main Menu

- ▣ Coupling / Ceqn
- ▣ FLOTRAN Set Up
- ▣ Multi-field Set Up
- ▣ Loads
 - ▣ Analysis Type
 - ▣ Define Loads
 - ▣ Settings
 - ▣ Apply
 - ▣ Structural
 - ▣ Displacement
 - ▣ Force/Moment
 - On Keypoint
 - On Nodes
 - On Node Cou
 - ▣ From Reactio
 - ▣ From Mag Ar
 - ▣ Pressure
 - ▣ Temperature
 - ▣ Inertia
 - ▣ Pretnsn Sectn
 - ▣ Gen Plane Strai
 - ▣ Other
 - ▣ Field Surface Inte



Apply F/M on Nodes

☒ Pick ☐ Unpick

☒ Single ☐ Box

☐ Polygon ☐ Circle

☐ Loop

Count = 1

Maximum = 5

Minimum = 1

Node No. = 3

☒ List of Items

☐ Min, Max, Inc

OK

Apply

Reset

Cancel

Pick All

Help

 Apply F/M on Nodes ✕

[F] Apply Force/Moment on Nodes

Lab Direction of force/mom

Apply as

If Constant value then:

VALUE Force/moment value

ANSYS Main Menu

- Preferences
- Preprocessor
- Solution
 - Analysis Type
 - New Analysis
 - Restart
 - Sol'n Controls
 - Define Loads
 - Load Step Opts
 - SE Management (CMS)
 - Results Tracking
 - Solve
 - Manual Rezoning
 - Multi-field Set Up
 - ADAMS Connection
 - Diagnostics
 - Unabridged Menu
- General Postproc
- TimeHist Postpro
- ROM Tool
- DesignXplorer
- Prob Design
- Radiation Opt
- Session Editor
- Finish

1
NODES

5

Y
X

2

ANSYS

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New Analysis

[ANTYPE] Type of analysis

☒ Static

☐ Modal

☐ Harmonic

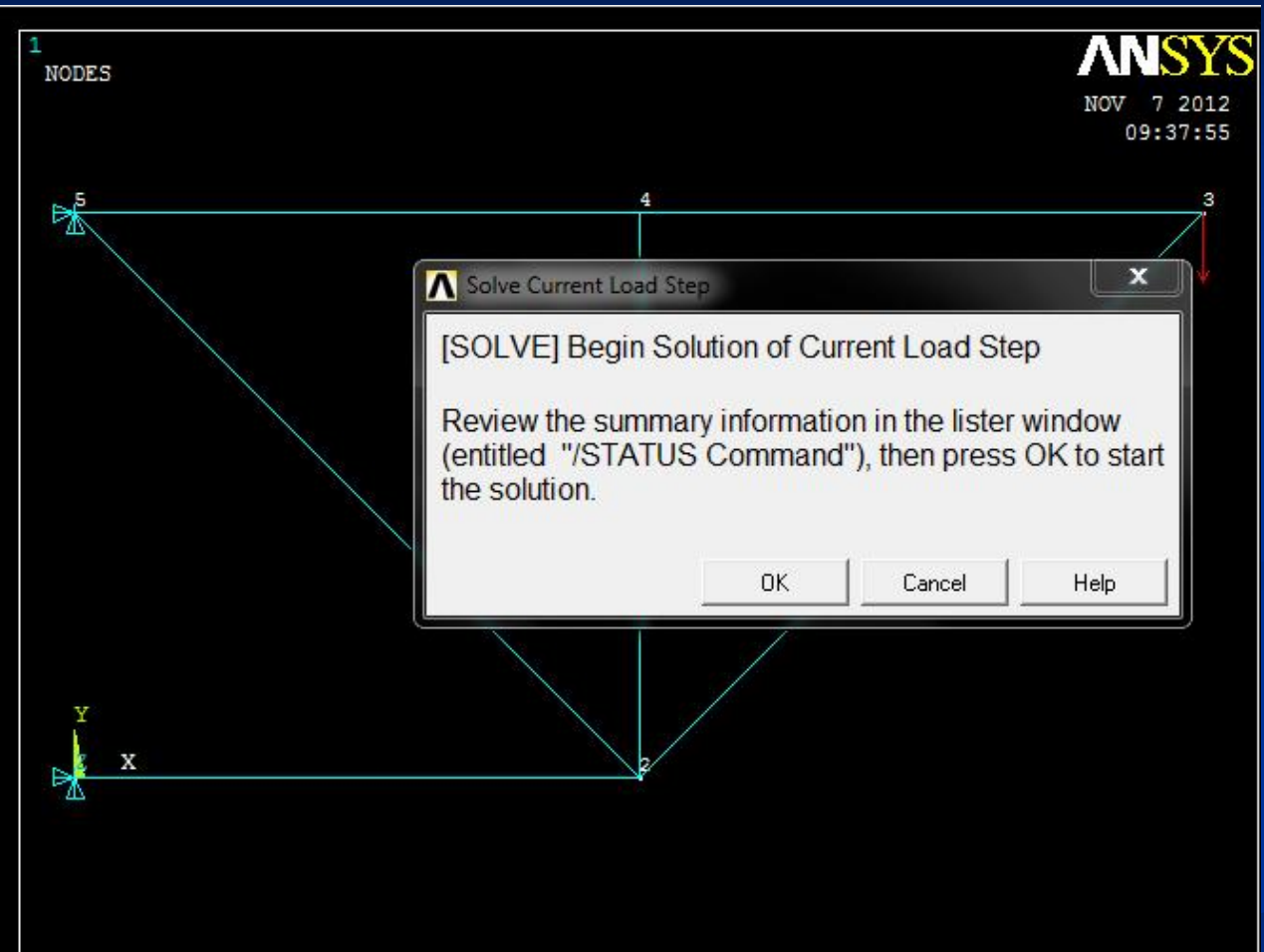
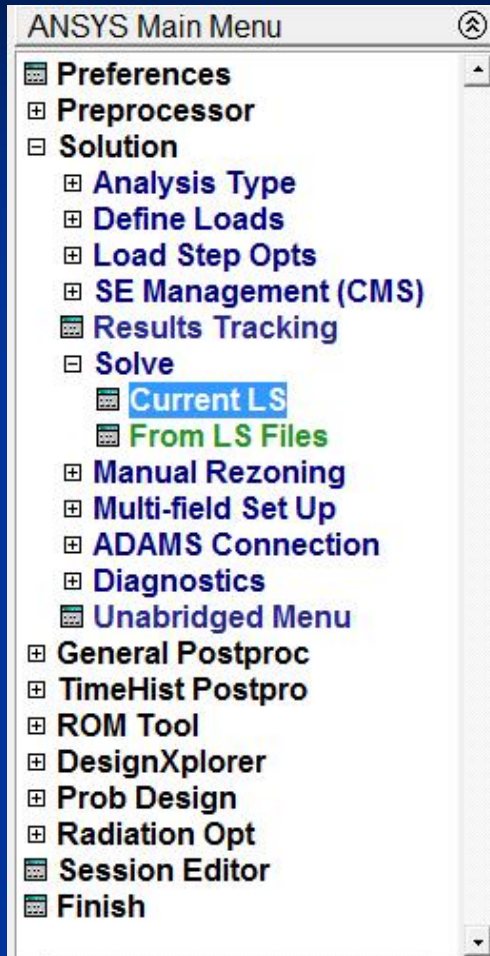
☐ Transient

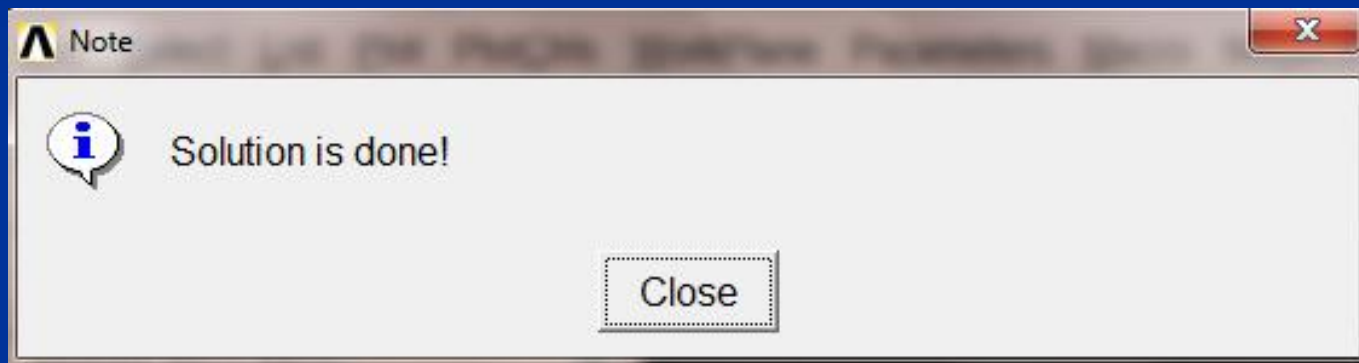
☐ Spectrum

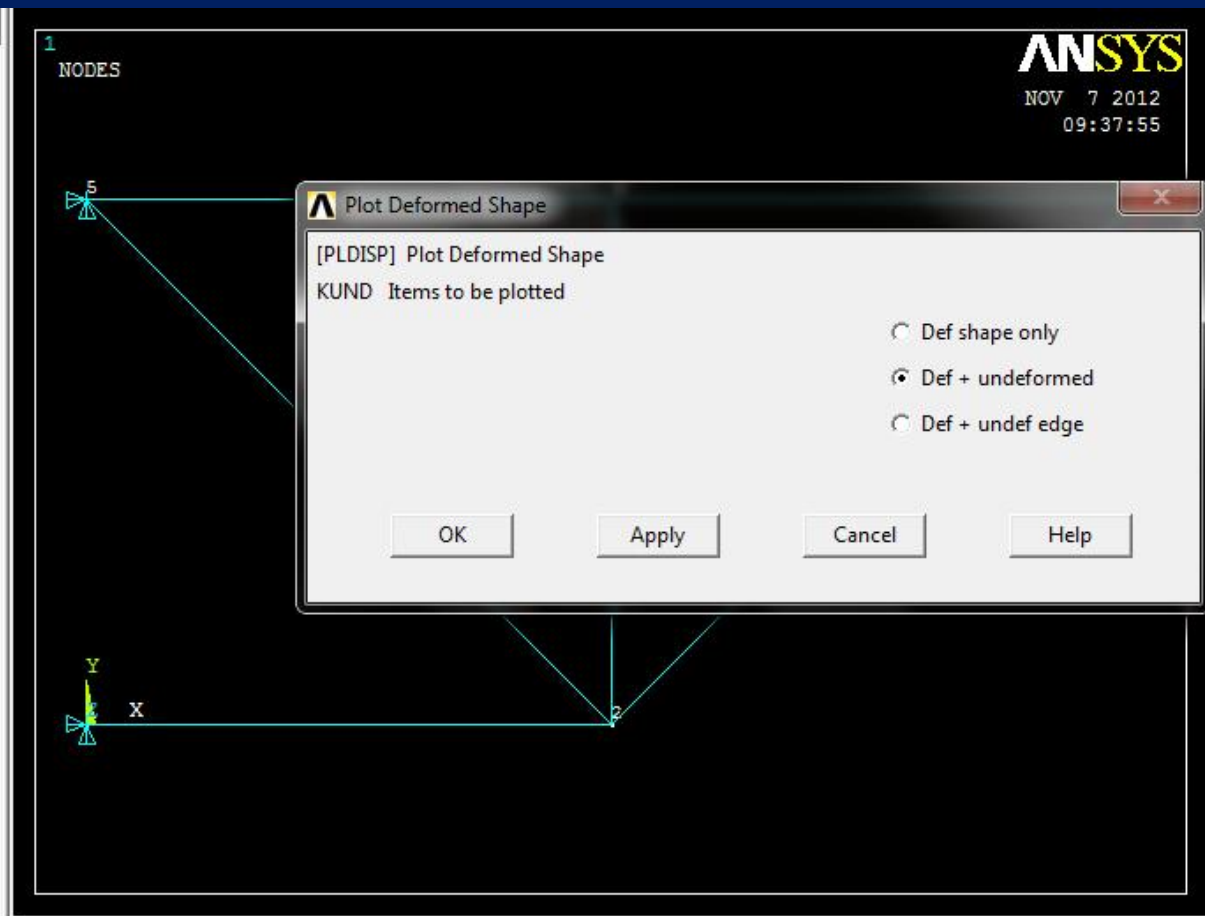
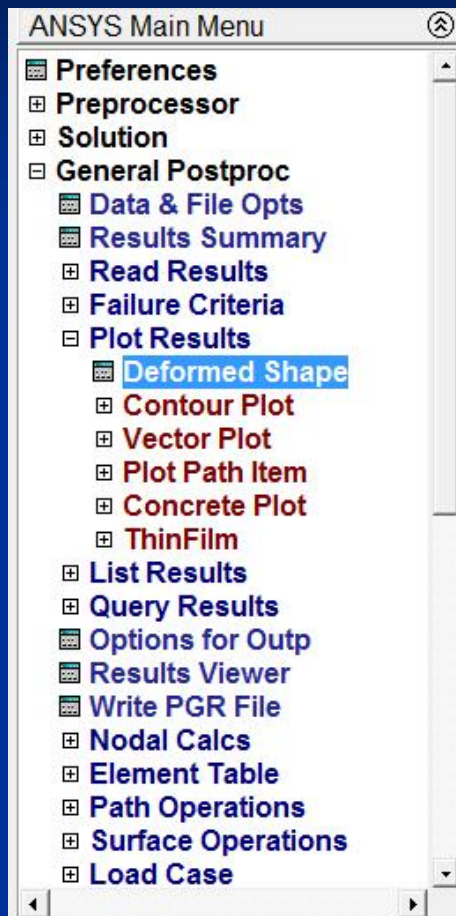
☐ Eigen Buckling

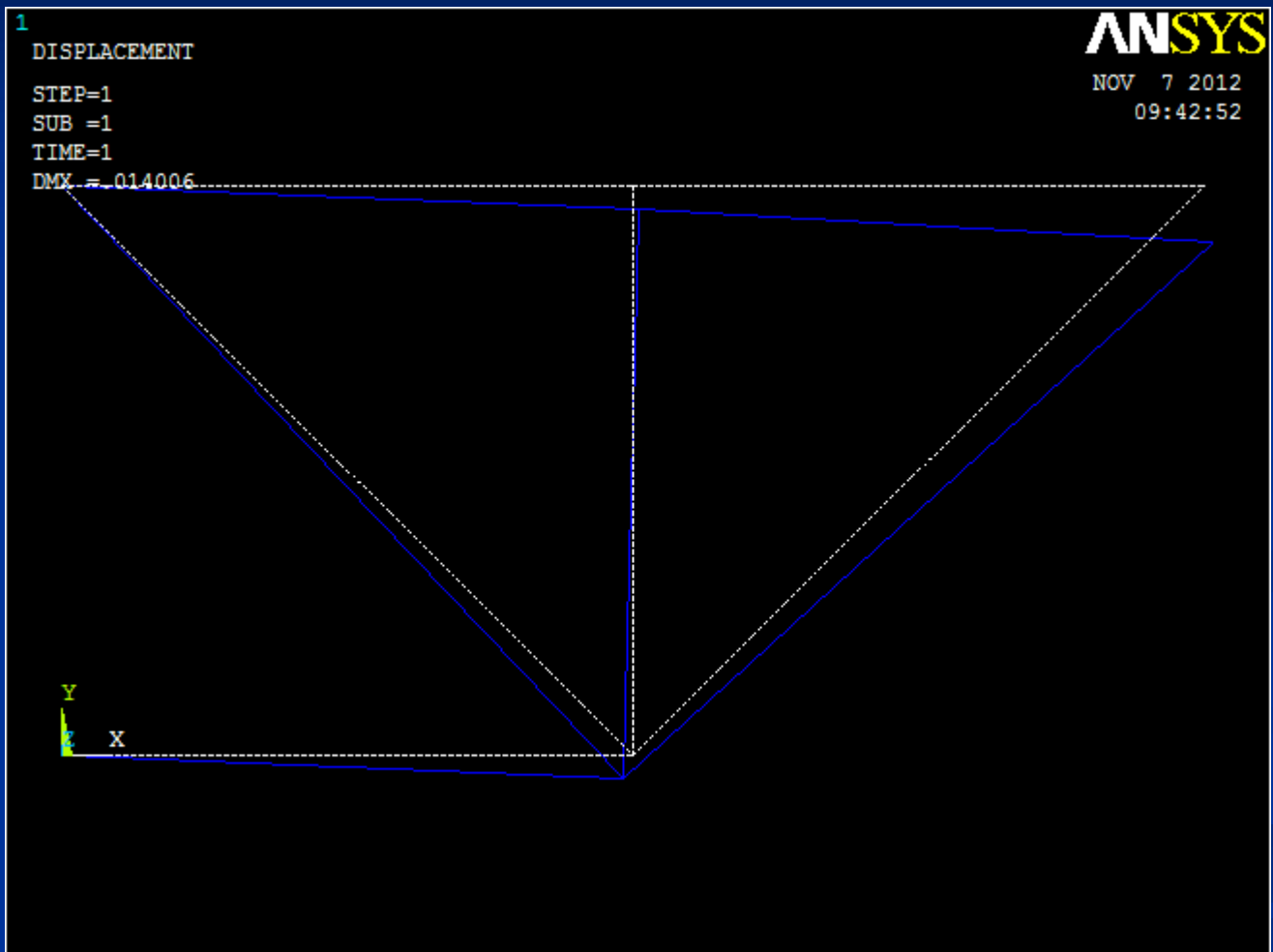
☐ Substructuring/CMS

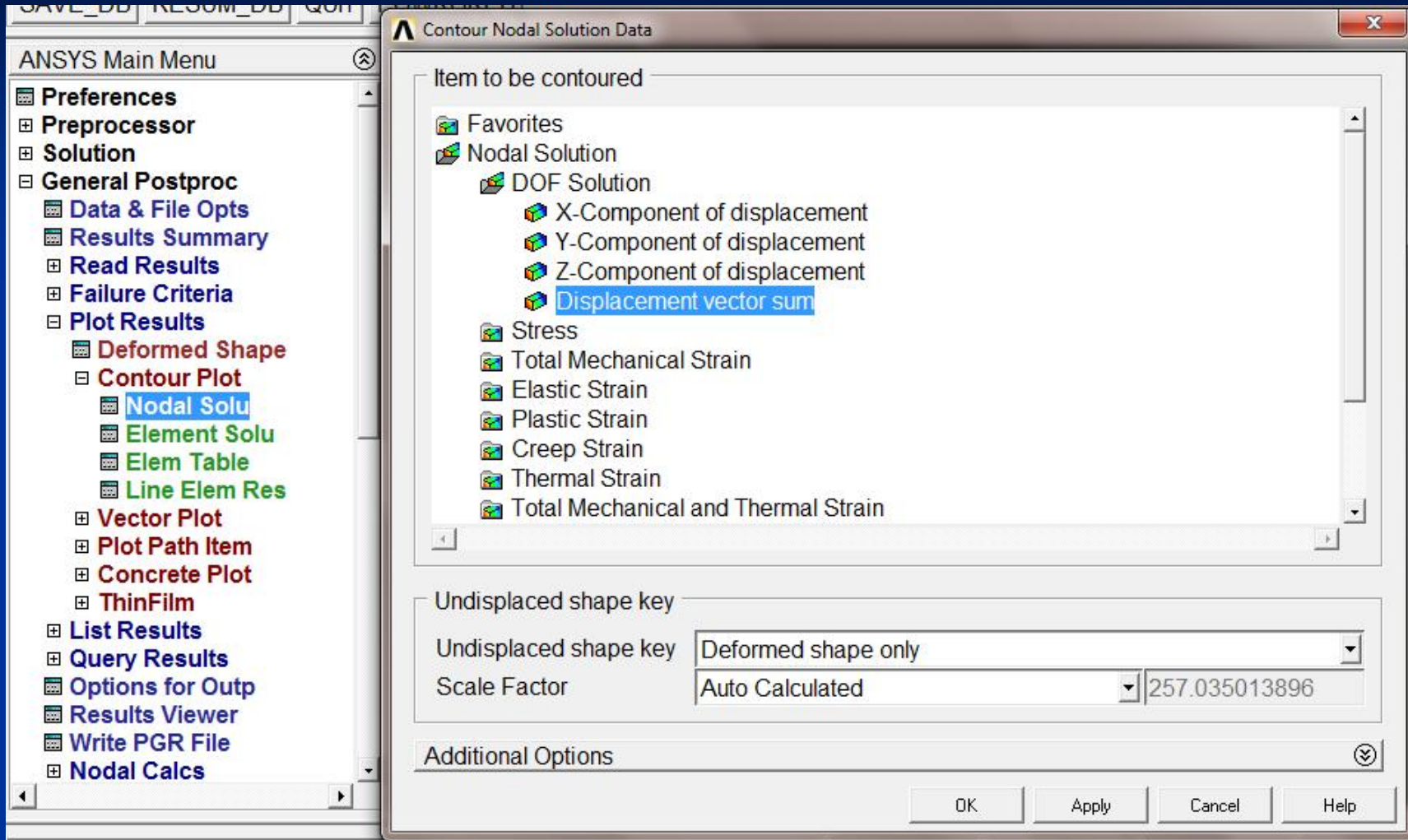
OK Cancel Help

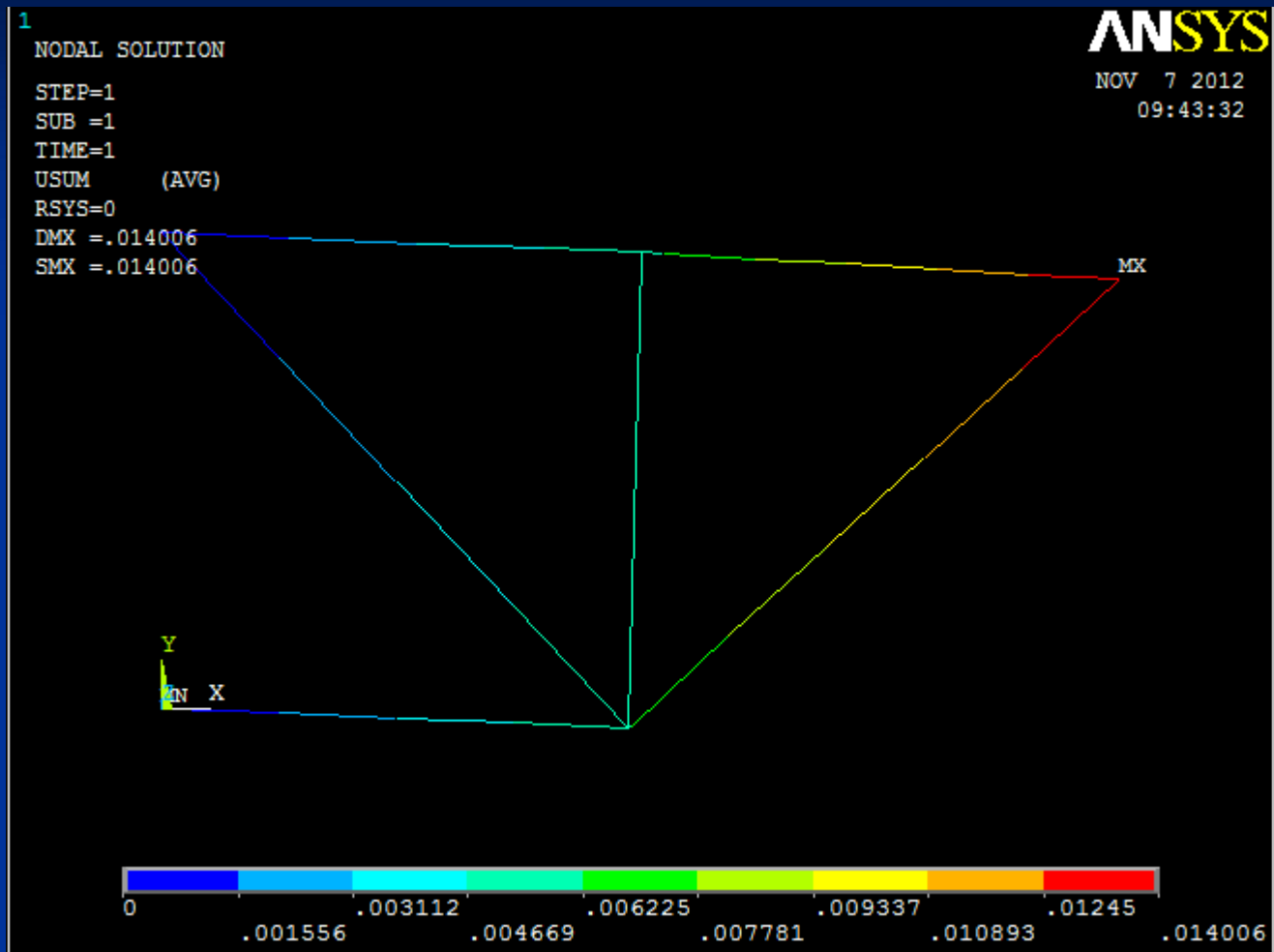


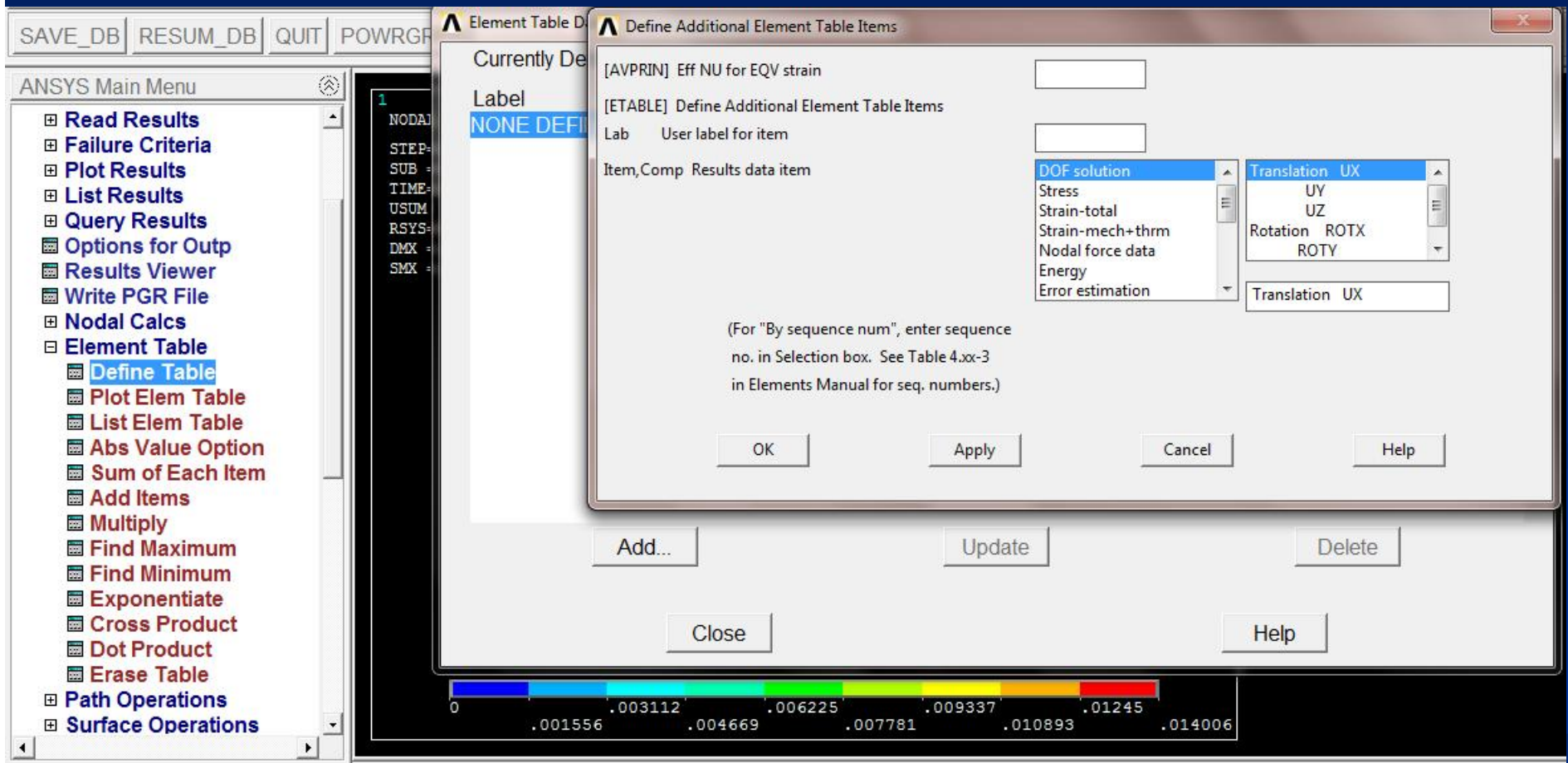












SAVE_DB RESUM_DB QUIT POWRGR

ANSYS Main Menu

- Read Results
- Failure Criteria
- Plot Results
- List Results
- Query Results
- Options for Outp
- Results Viewer
- Write PGR File
- Nodal Calcs
- Element Table
 - Define Table
 - Plot Elem Table
 - List Elem Table
 - Abs Value Option
 - Sum of Each Item
 - Add Items
 - Multiply
 - Find Maximum
 - Find Minimum
 - Exponentiate
 - Cross Product

1 NODAL
STEP=
SUB =
TIME=
USUM
RSYS=
DMX =
SMX =

Element Table D

Currently De

Label

NONE DEFIN

Define Additional Element Table Items

[AVPRIN] Eff NU for EQV strain

[ETABLE] Define Additional Element Table Items

Lab User label for item

Item,Comp Results data item

DOF solution
Stress
Strain-total
Strain-mech+thrm
Nodal force data
Energy
Error estimation

(For "By sequence num", enter sequence
no. in Selection box. See Table 4.xx-3
in Elements Manual for seq. numbers.)

OK

Apply

Cancel

Add...

Update

Close

ANSYS Main Menu

- ⊕ Read Results
- ⊕ Failure Criteria
- ⊖ Plot Results
 - ▣ Deformed Shape
 - ⊖ Contour Plot
 - ▣ Nodal Solu
 - ▣ Element Solu
 - ▣ Elem Table
 - ▣ Line Elem Res
 - ⊕ Vector Plot
 - ⊕ Plot Path Item
 - ⊕ Concrete Plot
 - ⊕ ThinFilm
- ⊕ List Results
- ⊕ Query Results

1
ELEMENT SOLUTION
STEP=1
SUB =1
TIME=1
SENE (NOAVG)
DMX =.014006
SMX =1.18421

ANSYS

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09:47:33

Contour Plot of Element Table Data

[PLETAB] Contour Element Table Data

Item to be plotted

SENE

Average at common nodes?

No - do not avg

OK

Apply

Cancel

Help

1

ELEMENT SOLUTION

STEP=1

SUB =1

TIME=1

SENE (NOAVG)

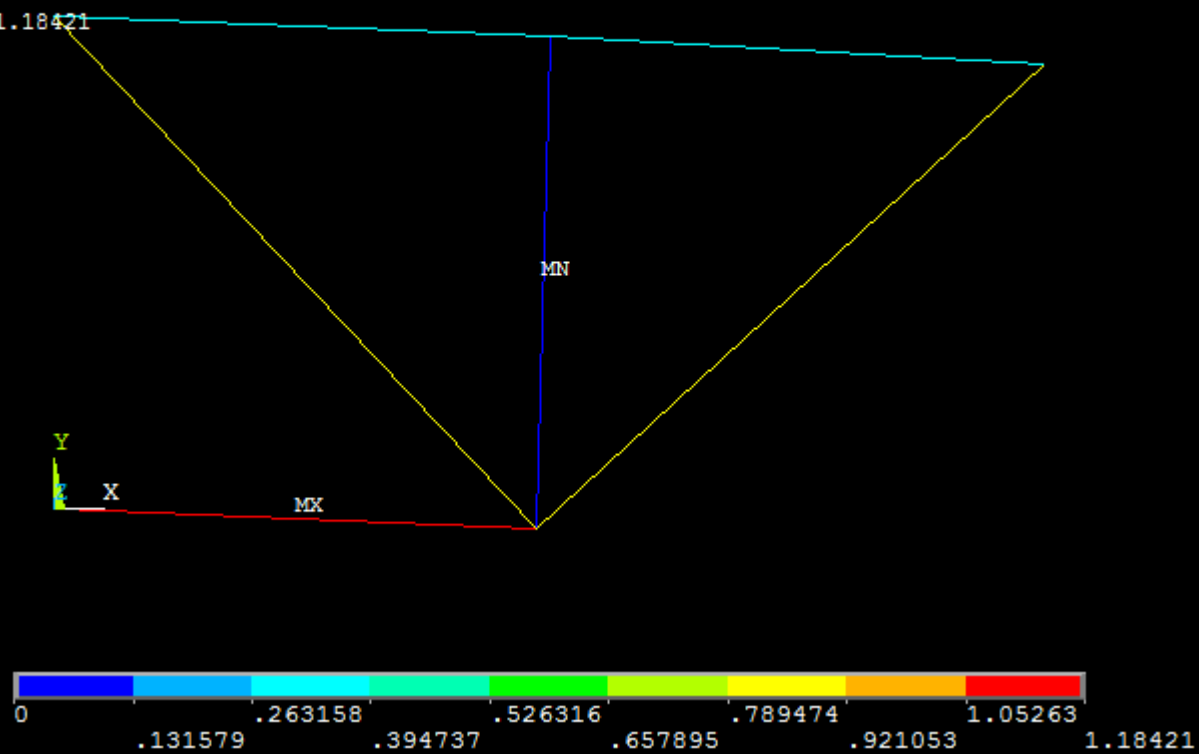
DMX =.014006

SMX =1.18421

ANSYS

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09:48:24



- ANSYS Main Menu
- Read Results
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 - Add Items
 - Multiply
 - Find Maximum
 - Find Minimum
 - Exponentiate
 - Cross Product
 - Dot Product
 - Erase Table
 - Path Operations
 - Surface Operations

1
ELEMENT SOLUTION

STEP=1
SUB =1
TIME=1
SENE (NOAV
DMX =.014006
SMX =1.18421

Exponentiate Element Table Items

[SEXP] LabR = (|Lab1| ** EXP1) * (|Lab2| ** EXP2)

LabR User label for result

Lab1 1st Element table item

EXP1 1st Exponent

Lab2 2nd Element table item

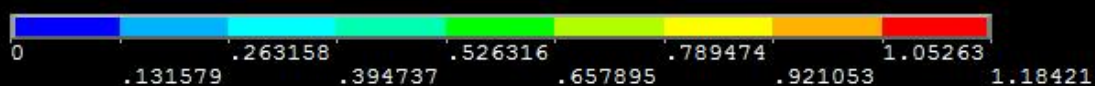
EXP2 2nd Exponent

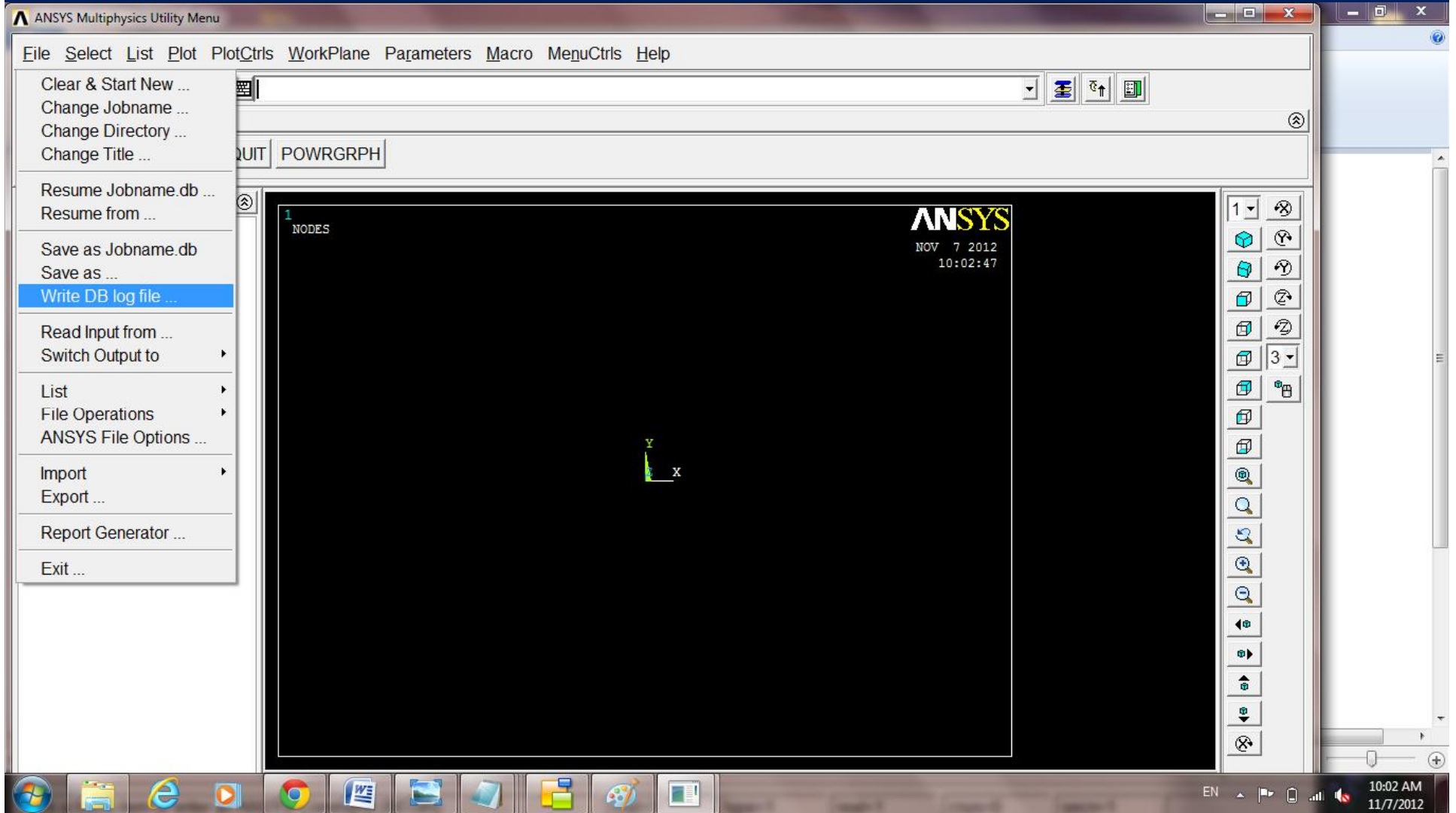
OK

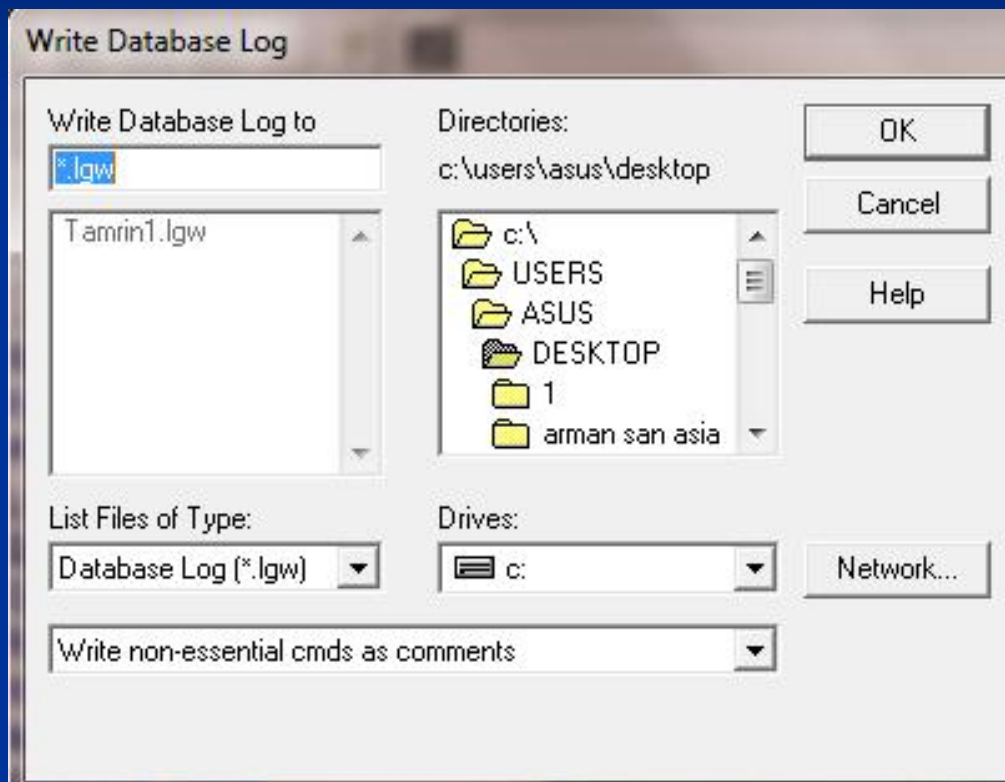
Apply

Cancel

Help







Tamrin1 - Notepad

File Edit Format View Help

```

/BATCH
! /COM,ANSYS RELEASE 14.0      UP20111024      09:32:32      11/07/2012
/input,menust,tmp,'',,,,,,,,,,,,,,1
! /GRA,POWER
! /GST,ON
! /PLO,INFO,3
! /GRO,CURL,ON
! /CPLANE,1
! /REPLOT,RESIZE
WPSTYLE,,,,,,,,,0
! /REPLOT,RESIZE
/PREP7
!*
!*
!*
ET,1,LINK180
!*
R,1,8, ,0
!*
!*
MPTEMP,,,,,,,,
MPTEMP,1,0
MPDATA,EX,1,,1.9e6
MPDATA,PRXY,1,,.3
N,1,0,0,0,,,
N,2,36,0,0,,,
N,3,72,36,0,,,
N,4,36,36,0,,,
N,5,0,36,0,,,
FLST,2,2,1
FITEM,2,1
FITEM,2,2
E,P51X
FLST,2,2,1

```

```
|  
/PREP7
```

```
ET,1,LINK180
```

```
R,1,8, ,0
```

```
MPTEMP,,,,,,,,
```

```
MPTEMP,1,0
```

```
MPDATA,EX,1,,1.9e6
```

```
MPDATA,PRXY,1,,.3
```

```
N,1,0,0,0,,,
```

```
N,2,36,0,0,,,
```

```
N,3,72,36,0,,,
```

```
N,4,36,36,0,,,
```

```
N,5,0,36,0,,,
```

```
FLST,2,2,1
```

```
FITEM,2,1
```

```
FITEM,2,2
```

```
E,P51X
```

```
FLST,2,2,1
```

```
FITEM,2,5
```

```
FITEM,2,2
```

```
E,P51X
```

```
FLST,2,2,1
```

```
FITEM,2,4
```

```
FITEM,2,2
```

```
E,P51X
```

```
FLST,2,2,1
```

```
FITEM,2,2
```

```
FITEM,2,3
```

```
E,P51X
```

```
FLST,2,2,1
```

```
FITEM,2,5
```

```
FITEM,2,3
E,P51X
FLST,2,2,1
FITEM,2,5
FITEM,2,4
E,P51X
FLST,2,2,1
FITEM,2,4
FITEM,2,3
E,P51X
FLST,2,2,1,ORDE,2
FITEM,2,1
FITEM,2,5
/GO
D,P51X, , , , ,ALL, , , , ,
FLST,2,1,1,ORDE,1
FITEM,2,3
/GO
F,P51X,FY,-500
FINISH

/SOL
ANTYPE,0
SOLVE
FINISH

/POST1
PLDISP,1
/EFACET,1
PLNSOL,U,SUM,0,1.0
AVPRIN,0, ,
ETABLE, ,SENE,
PLETAB,SENE,NOAV
```