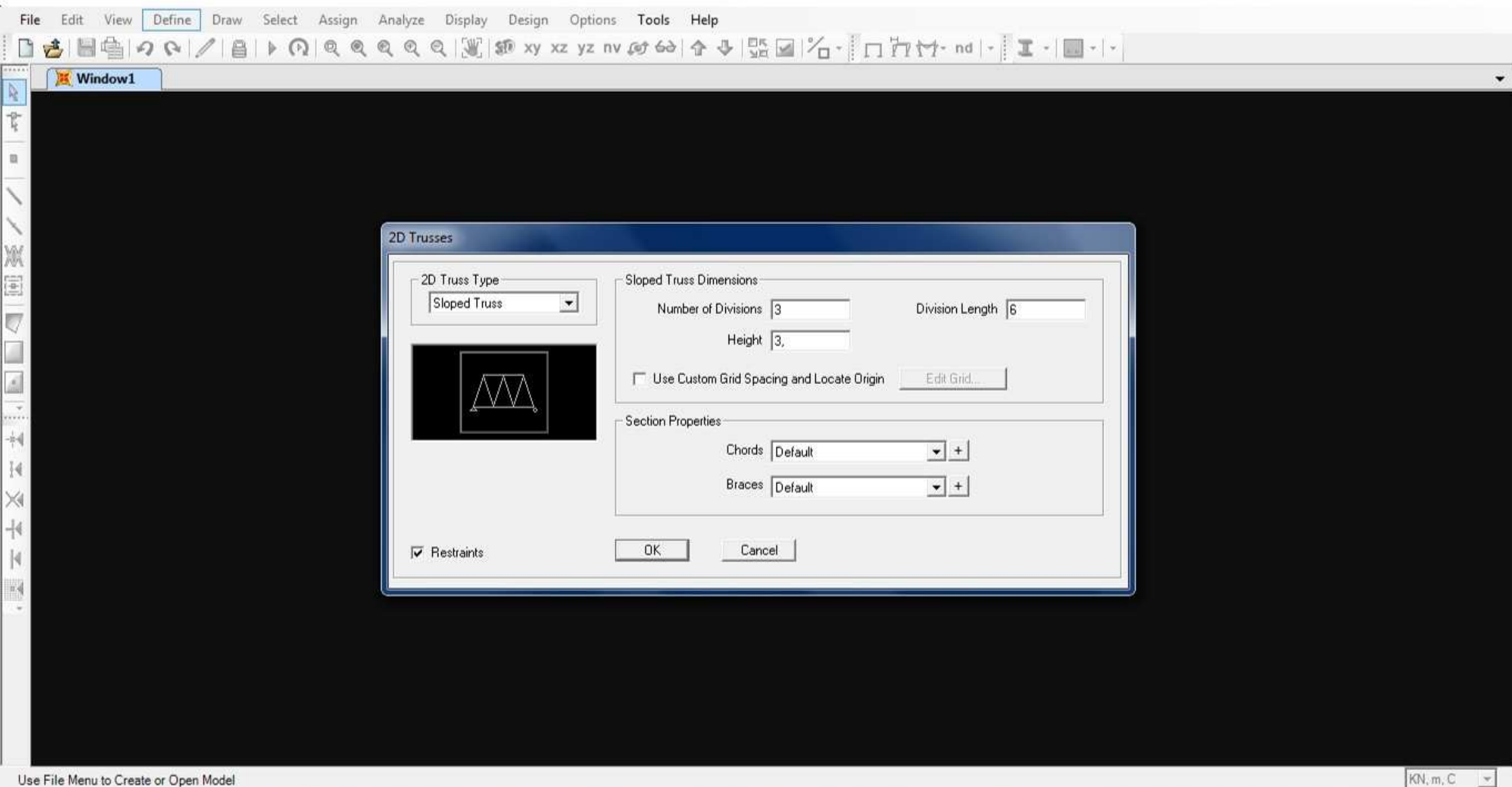


1\_ creo la trave reticolare di studio sfruttando un modello preimpostato e modificando i valori di default ( **division length = 6** )



## 2\_ attivo la numerazione delle aste

File Edit View Define Draw Select Assign Analyze Display Design Options Tools Help

X-Z Plane @ Y=0

1  
A

1  
G

Display Options For Active Window

- Joints**
  - Labels
  - Restraints
  - Springs
  - Local Axes
  - Invisible
  - Not in View
- Frames/Cables/Tendons**
  - Labels
  - Sections
  - Releases
  - Local Axes
  - Frames Not in View
  - Cables Not in View
  - Tendons Not in View
- General**
  - Shrink Objects
  - Extrude View
  - Fill Objects
  - Show Edges
  - Show Ref. Lines
  - Show Bounding Boxes
- View by Colors of**
  - Objects
  - Sections
  - Materials
  - Color Printer
  - White Background, Black Objects
  - Selected Groups
- Areas**
  - Labels
  - Sections
  - Local Axes
  - Not in View
- Solids**
  - Labels
  - Sections
  - Local Axes
  - Not in View
- Links**
  - Labels
  - Properties
  - Local Axes
  - Not in View
- Miscellaneous**
  - Show Analysis Model (If Available)
  - Show Joints Only For Objects In View

Apply to All Windows

OK Cancel

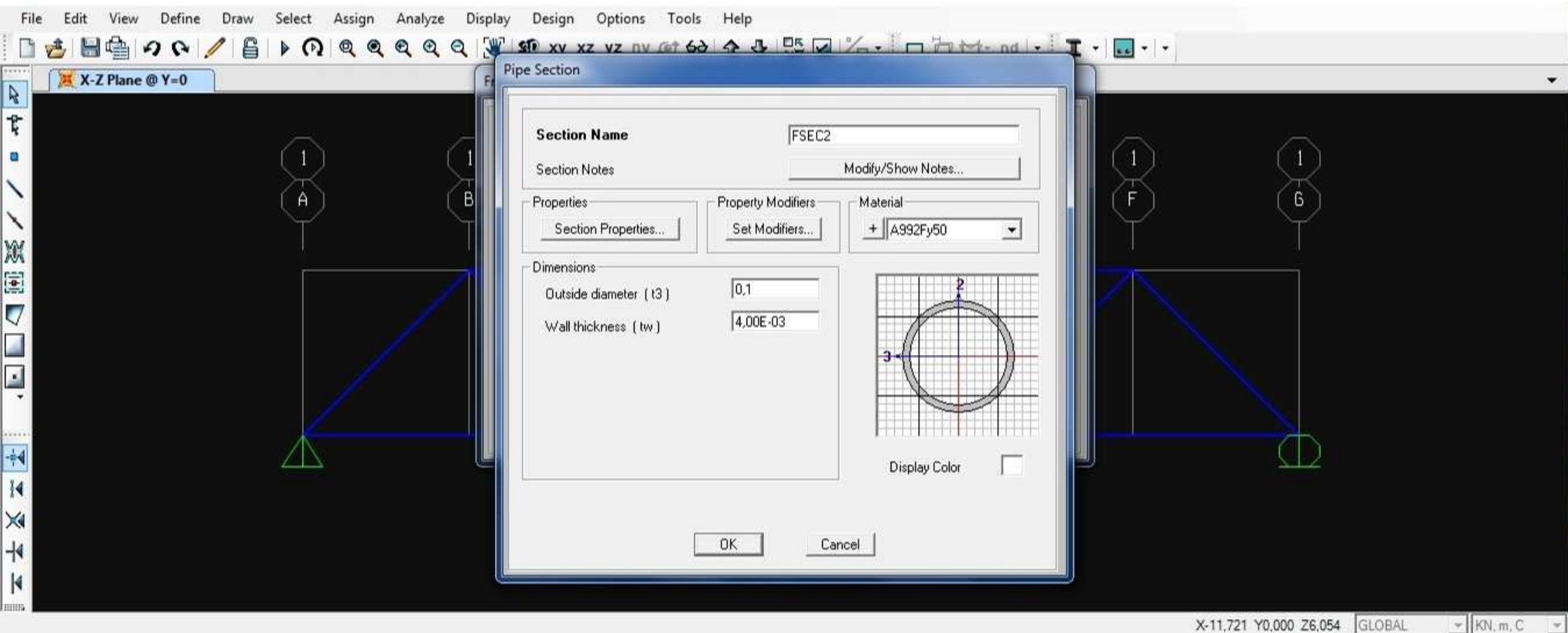
X-Z Plane @ Y=0 X-8,645 Y0,000 Z6,838 GLOBAL KN, m, C

3\_ impongo che il peso proprio non venga calcolato insieme alle forze esterne applicate.  
Questo perchè una trave è reticolare quando ha solo forze puntuali applicate sui nodi.

The screenshot shows a software interface with a menu bar (File, Edit, View, Define, Draw, Select, Assign, Analyze, Display, Design, Options, Tools, Help) and a toolbar. The main workspace displays a beam model with nodes labeled 1, A, and 6. A dialog box titled "Define Load Patterns" is open, showing a table of load patterns. The table has columns for "Load Pattern Name", "Type", "Self Weight Multiplier", and "Auto Lateral Load Pattern". The "DEAD" pattern is selected, with a multiplier of 1. The dialog also includes a "Click To:" section with buttons for "Add New Load Pattern", "Modify Load Pattern", "Modify Lateral Load Pattern...", "Delete Load Pattern", and "Show Load Pattern Notes...", along with "OK" and "Cancel" buttons. The status bar at the bottom shows coordinates (X-8,208 Y0,000 Z2,320) and units (GLOBAL, KN, m, C).

Load Pattern Name	Type	Self Weight Multiplier	Auto Lateral Load Pattern
retic	DEAD	0	
DEAD	DEAD	1	

3a\_ definisco la sezione delle aste, specificando materiale e diametri esterni e interni



4\_ dopo aver selezionato solo i nodi superiori, applico le forze puntuali ricordandomi di caricare il modello prima definito (retic)

The screenshot displays a software interface for defining joint forces on a truss model. The truss is shown in the X-Z Plane @ Y=0, with nodes labeled A, B, F, and G. The top nodes are numbered 1. The truss consists of members 6, 7, 8, 9, 10, and 11. A dialog box titled 'Joint Forces' is open, showing the following settings:

- Load Pattern Name: retic
- Units: KN, m, C
- Coordinate System: GLOBAL
- Options: Replace Existing Loads (selected)
- Force Global X: 0
- Force Global Y: 0
- Force Global Z: -40
- Moment about Global X: 0
- Moment about Global Y: 0
- Moment about Global Z: 0

The status bar at the bottom indicates '3 Points Selected' and 'X-6,131 Y0,000 Z6,984 GLOBAL KN, m, C'.

5\_ seleziono tutte le aste e definisco il **rilascio all'inizio e alla fine** di ognuna di esse.  
Questo perchè le cerniere non trasmettono il momento

File Edit View Define Draw Select Assign Analyze Display Design Options Tools Help

Joint Loads (retic)

Assign Frame Releases

Frame Releases	Release		Frame Partial Fixity Springs	
	Start	End	Start	End
Axial Load	<input type="checkbox"/>	<input type="checkbox"/>		
Shear Force 2 (Major)	<input type="checkbox"/>	<input type="checkbox"/>		
Shear Force 3 (Minor)	<input type="checkbox"/>	<input type="checkbox"/>		
Torsion	<input type="checkbox"/>	<input type="checkbox"/>		
Moment 22 (Minor)	<input type="checkbox"/>	<input type="checkbox"/>		
Moment 33 (Major)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	0

No Releases Units: KN, m, C

OK Cancel

7 Points 11 Frames Selected GLOBAL KN, m, C



6\_ decido di calcolare gli sforzi e le deformazioni solo del **modello da me definito**; toglò quindi il "run" agli altri modelli presenti.  
Dopodichè avvio il calcolo (**Run now**)

File Edit View Define Draw Select Assign Analyze Display Design Options Tools Help

Frame Releases

Set Load Cases to Run

Case Name	Type	Status	Action
DEAD	Linear Static	Not Run	Do Not Run
MODAL	Modal	Not Run	Do Not Run
retic	Linear Static	Not Run	Run

Click to:

Run/Do Not Run Case

Show Case...

Delete Results for Case

Run/Do Not Run All

Delete All Results

Show Load Case Tree...

Analysis Monitor Options

Always Show

Never Show

Show After 4 seconds

Model-Alive

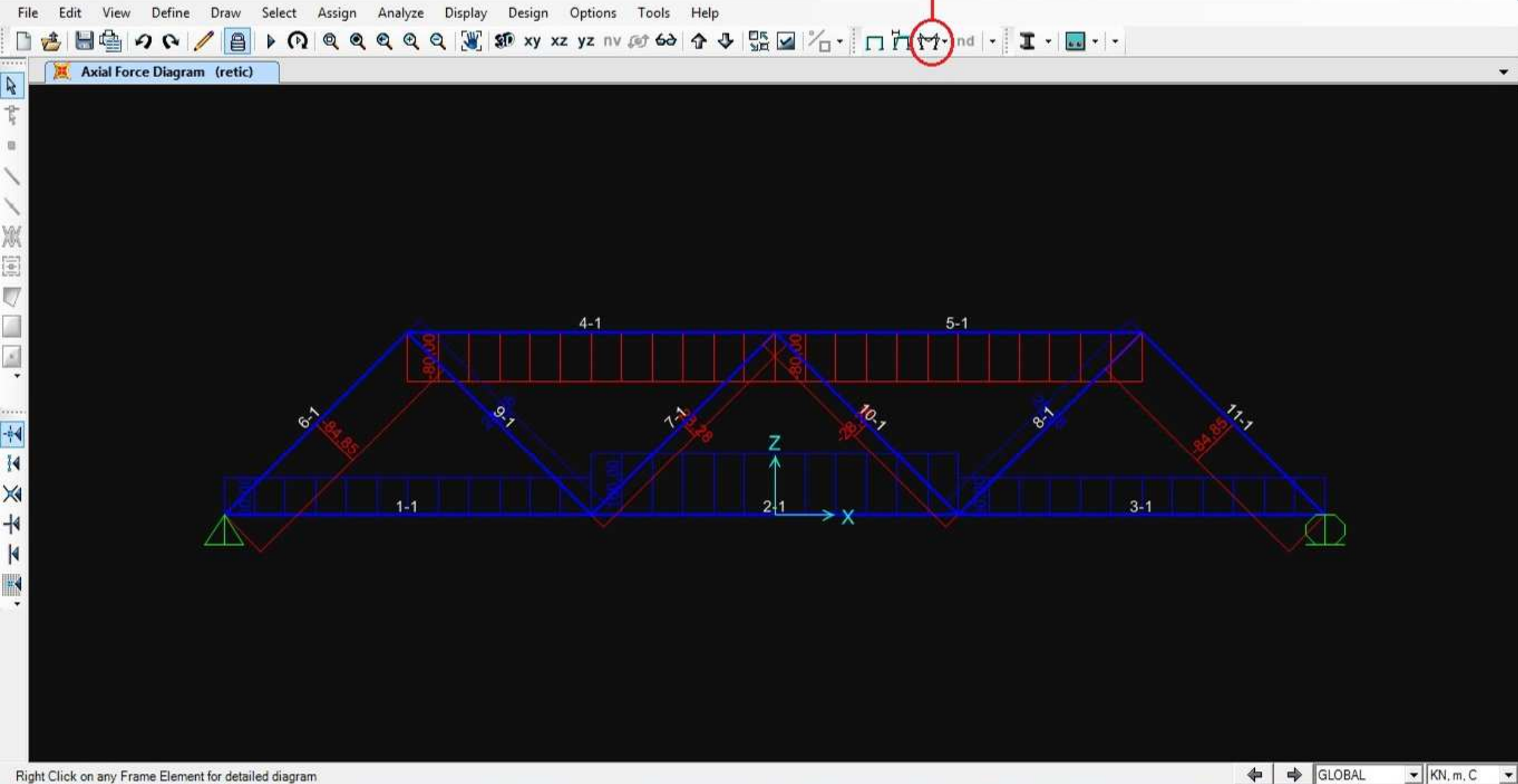
Run Now

OK Cancel

X-Z Plane @ Y=0

X-11,269 Y0,000 Z6,930 GLOBAL KN, m, C

7\_visualizzo i diagrammi dello sforzo assiale selezionando la modalità numerica

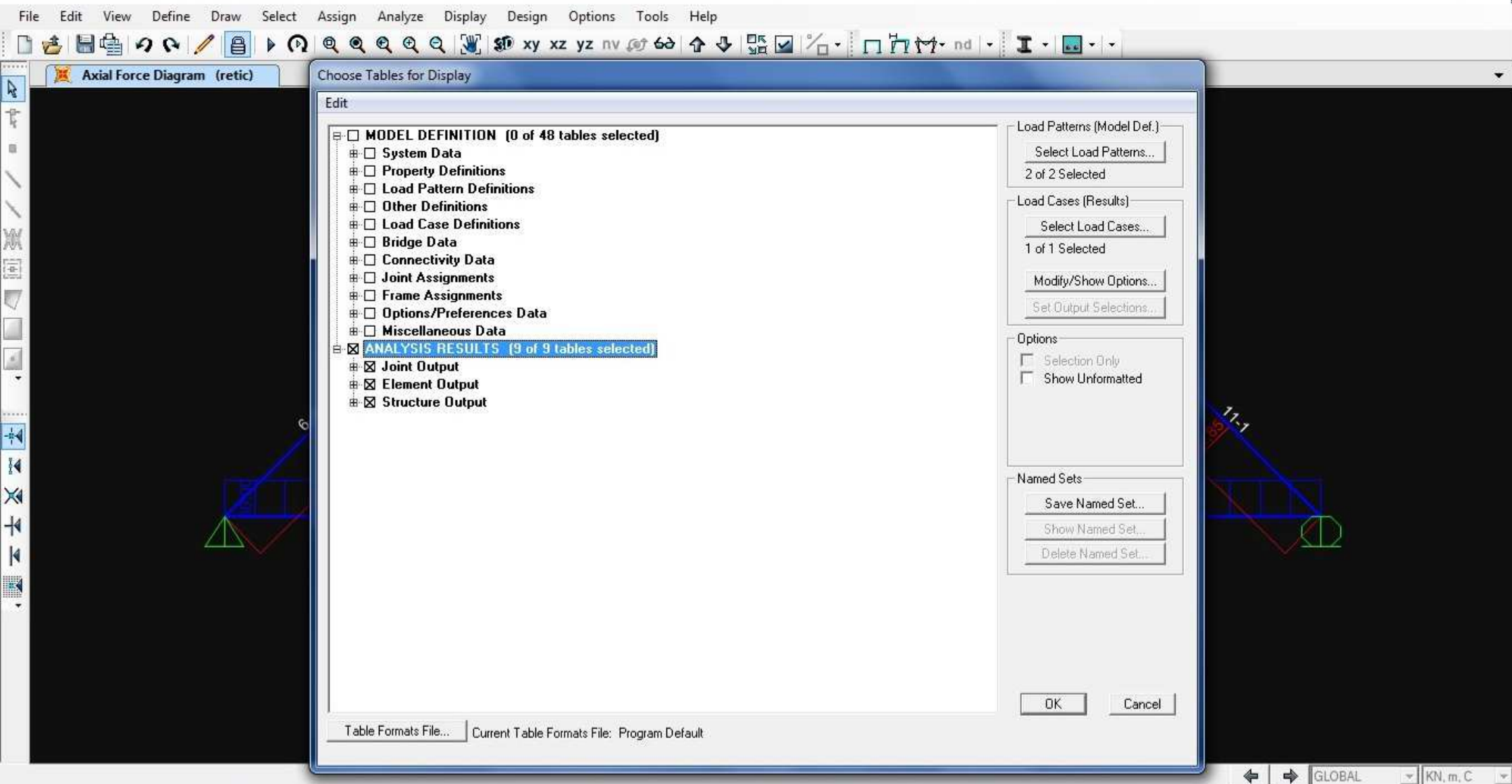


Right Click on any Frame Element for detailed diagram

GLOBAL KN, m, C



8\_ seleziono le tabelle di cui voglio vedere i risultati



9\_ una volta visualizzate le esporto in excel per pulirle ed evidenziare i risultati che mi interessano

File Edit View Define Draw Select Assign Analyze Display Design Options Tools Help

Axial Force Diagram (retic)

### Element Forces - Frames

File View Format-Filter-Sort Select Options

Units: As Noted

	Frame Text	Station m	OutputCase Text	CaseType Text	P KN	V2 KN	V3 KN	T KN-m	M2 KN-m
▶	1	0	retic	LinStatic	60	0	0	0	0
	1	0,5	retic	LinStatic	60	0	0	0	0
	1	1	retic	LinStatic	60	0	0	0	0
	1	1,5	retic	LinStatic	60	0	0	0	0
	1	2	retic	LinStatic	60	0	0	0	0
	1	2,5	retic	LinStatic	60	0	0	0	0
	1	3	retic	LinStatic	60	0	0	0	0
	1	3,5	retic	LinStatic	60	0	0	0	0
	1	4	retic	LinStatic	60	0	0	0	0
	1	4,5	retic	LinStatic	60	0	0	0	0
	1	5	retic	LinStatic	60	0	0	0	0
	1	5,5	retic	LinStatic	60	0	0	0	0
	1	6	retic	LinStatic	60	0	0	0	0
	2	0	retic	LinStatic	100	0	0	0	0
	2	0,5	retic	LinStatic	100	0	0	0	0
	2	1	retic	LinStatic	100	0	0	0	0
	2	1,5	retic	LinStatic	100	0	0	0	0
	2	2	retic	LinStatic	100	0	0	0	0
	2	2,5	retic	LinStatic	100	0	0	0	0
	2	3	retic	LinStatic	100	0	0	0	0

Record: 1 of 83

Add Tables... Done

Ready GLOBAL KN, m, C

**TABLE: Element Forces - Frames**

Frame	N	AREA	$\sigma$
Text	KN	mm <sup>2</sup>	MPa
1	60,00	570,00	105,26
2	100,00	570,00	175,44
3	60,00	570,00	105,26
4	-80,00	570,00	-140,35
5	-80,00	570,00	-140,35
6	-84,85	570,00	-148,86
7	-28,28	570,00	-49,62
8	28,28	570,00	49,62
9	28,28	570,00	49,62
10	-28,28	570,00	-49,62
11	-84,85	570,00	-148,86