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# ######################################################################## ##
## RC_FIAP (Reinforced Concrete Frame Inelastic Analysis Platform)        ##
##                                                                        ##
## Developed by:                                                          ##
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##  RCFIAPMain.py: this is the main script that calls                     ##
##  GUIFrameNonLinearACI.py: graphical environment                        ##
##  mplwidget.py: script to help plot the plastic hinge projector         ##
## ########################################################################
```

Dialog

Frame Data | Design Results | Pushover Data | Pushover Results

Columns Sections

Exterior		Interior	
Width (m) =	0.4	Width (m) =	0.4
Depth (m) =	0.5	Depth (m) =	0.5

Beams Sections

Width (m) =	0.4
Depth (m) =	0.5

Materials

f_y (MPa) =	420
Beams f'_c (MPa) =	28
Columns f'_c (MPa) =	28

Frame Geometry

Vector of story heigths (m) = h1,h2,h3,...	3.5,3
Vector of spans (m) = s1,s2,s3,...	6,6

Frame Loading

Dead Load (kN/m^2) =	6
Live Load (kN/m^2) =	2
Tributary Length for gravity (m) =	5
Tributary Length for seismic (m) =	5

Seismic ASCE 7-16 Design Parameters

R =	4.0	S_{DS} (g) =	0.5
Cd =	3.5	S_{D1} (g) =	0.2
Ω =	3.0	T_L (sec) =	4.0

Member	Moment of inertia for elastic analysis	
Columns	0.70	I_g
Beams	0.35	I_g

Plastic hinge length l_p

- (●) $l_p = 0.5H$
- ( ) $l_p = 0.08l + 0.022d_b f_y$ (Priestley and Park)
- ( ) $l_p = 0.05l + 0.1 d_b f_y / \sqrt{f'_c}$ (Berry)

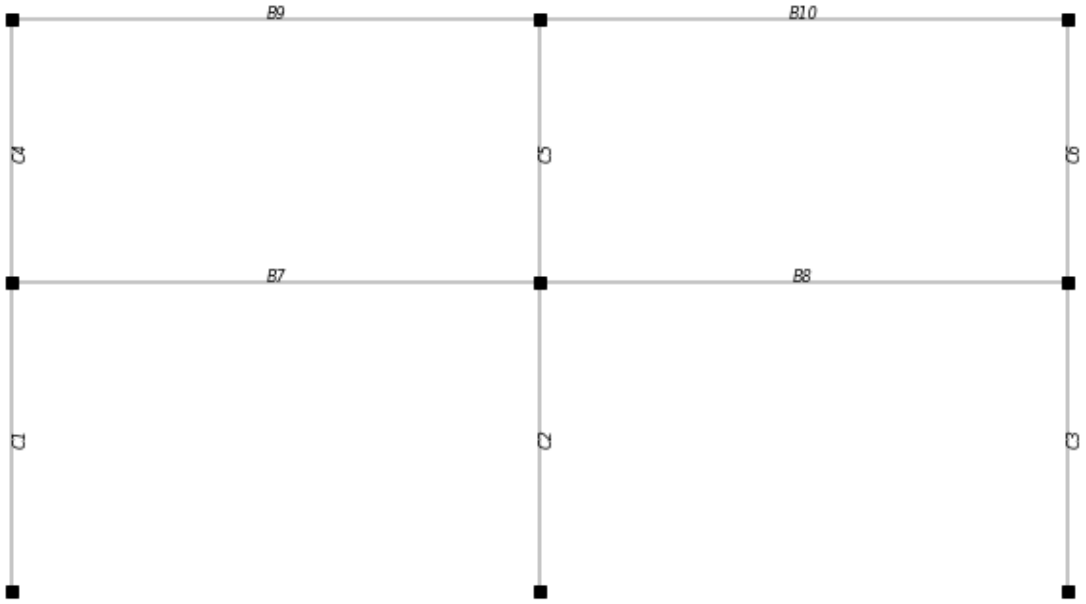
Regularization of Material Stress-strain Curves

- (●) Yes
- ( ) No

Design | Exit

Dialog

Frame Data | Design Results | Pushover Data | Pushover Results



Node i reinf. Node j reinf.

Beam detailing

	ID	b [cm]	h [cm]	As_top [cm²]	As_bot [cm²]	Left Side Leg #	Left Side Sstirrup [cm]	Right Side As_top [cm²]	Right Side As_bot [cm²]	Right Side Leg #	Right Side Sstirrup [cm]
1	B7	40	50	11.88	6.33	2	11	11.88	6.33	2	11
2	B8	40	50	11.88	6.33	2	11	11.88	6.33	2	11
3	B9	40	50	10.13	6.33	2	10	11.88	6.33	2	11
4	B10	40	50	11.88	6.33	2	11	10.13	6.33	2	10

nBars per face | hoop legs

Column detailing

	ID	b [cm]	h [cm]	db [mm]	nbH	nbB	Leg # H	Leg # B	Sstirrup [cm]
1	C1	40	50	15.88	4	4	3	3	12
2	C2	40	50	15.88	4	4	3	3	12
3	C3	40	50	15.88	4	4	3	3	12
4	C4	40	50	15.88	4	4	3	3	12
5	C5	40	50	15.88	4	4	3	3	12
6	C6	40	50	15.88	4	4	3	3	12

Create Non Linear Model