EDIFICIO

Nombre del Alumno: Pablo Daniel Castro Herrera

Nombre del tema: Cargas

Parcial: IV

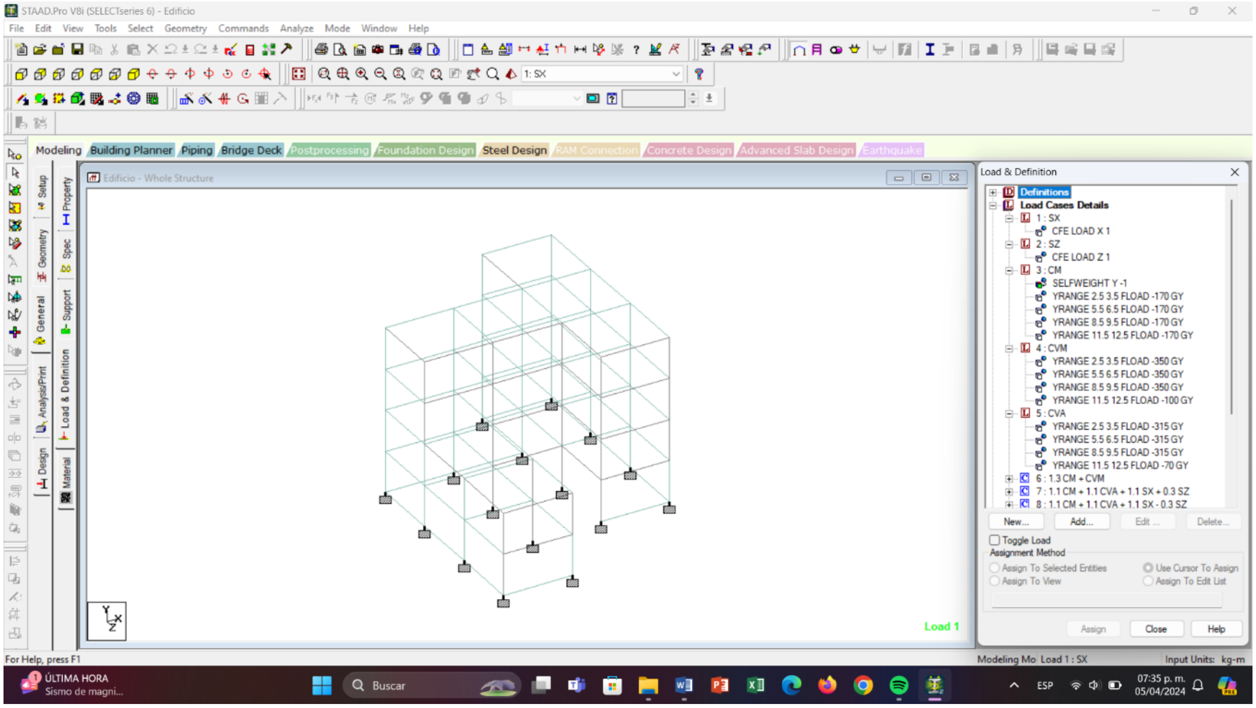
Nombre de la Materia: Diseño estructural

Nombre del profesor: Arq. Pedro Garcia

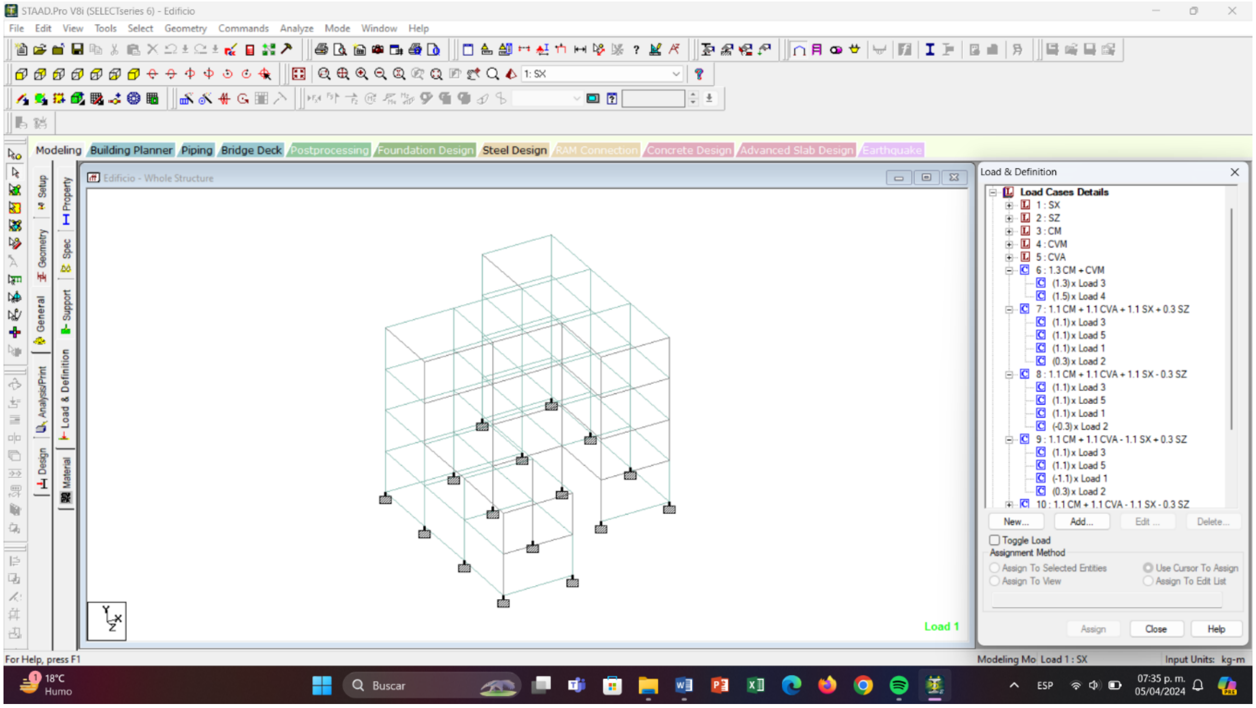
Nombre de la Licenciatura: Arquitectura

Cuatrimestre: 5

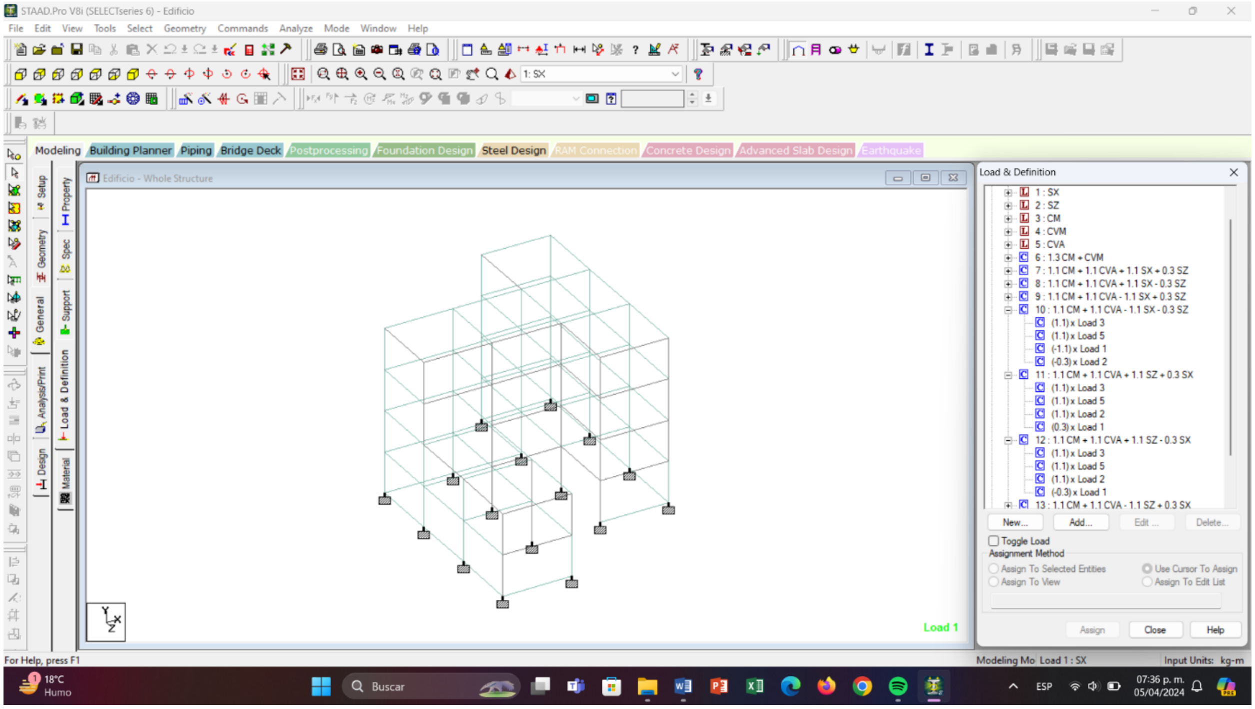
Fecha: 04 de abril 2024


STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
Modeling Building Planner Piping Bridge Deck Postprocessing Foundation Design Steel Design RAM Connection Concrete Design Advanced Slab Design Earthquake
Edificio - Whole Structure
Load 1
Load & Definition
New... Add... Edit ... Delete...
Toggle Load
Assignment Method
Assign To Selected Entities
Use Cursor To Assign
Assign To View
Assign To Edit List
Assign Close Help
For Help, press F1
Modeling Mo Load 1 : SX
Input Units: kg-m
ÚLTIMA HORA
Sismo de magni...
Buscar
ESP
07:35 p. m.
05/04/2024

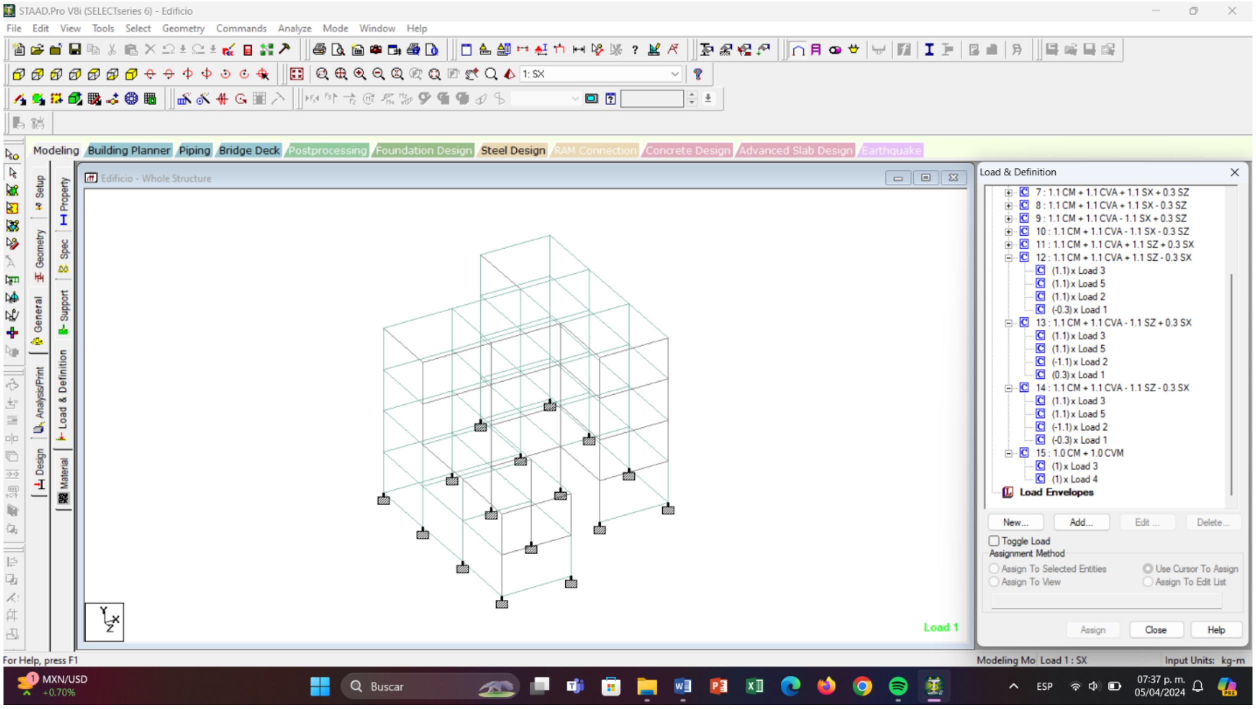
- Definitions
- Load Cases Details
  - 1 : SX
    - CFE LOAD X 1
  - 2 : SZ
    - CFE LOAD Z 1
  - 3 : CM
    - SELFWEIGHT Y -1
    - YRANGE 2.5 3.5 FLOAD -170 GY
    - YRANGE 5.5 6.5 FLOAD -170 GY
    - YRANGE 8.5 9.5 FLOAD -170 GY
    - YRANGE 11.5 12.5 FLOAD -170 GY
  - 4 : CVM
    - YRANGE 2.5 3.5 FLOAD -350 GY
    - YRANGE 5.5 6.5 FLOAD -350 GY
    - YRANGE 8.5 9.5 FLOAD -350 GY
    - YRANGE 11.5 12.5 FLOAD -100 GY
  - 5 : CVA
    - YRANGE 2.5 3.5 FLOAD -315 GY
    - YRANGE 5.5 6.5 FLOAD -315 GY
    - YRANGE 8.5 9.5 FLOAD -315 GY
    - YRANGE 11.5 12.5 FLOAD -70 GY
  - 6 : 1.3 CM + CVM
  - 7 : 1.1 CM + 1.1 CVA + 1.1 SX + 0.3 SZ
  - 8 : 1.1 CM + 1.1 CVA + 1.1 SX - 0.3 SZ


STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
Modeling Building Planner Piping Bridge Deck Postprocessing Foundation Design Steel Design RAM Connection Concrete Design Advanced Slab Design Earthquake
Edificio - Whole Structure
Load 1
Load & Definition
New... Add... Edit ... Delete...
Toggle Load
Assignment Method
Assign To Selected Entities
Use Cursor To Assign
Assign To View
Assign To Edit List
Assign Close Help
For Help, press F1
Modeling Mo Load 1 : SX
Input Units: kg-m
18°C
Humo
Buscar
ESP
07:35 p. m.
05/04/2024

- Load Cases Details
  - 1 : SX
  - 2 : SZ
  - 3 : CM
  - 4 : CVM
  - 5 : CVA
  - 6 : 1.3 CM + CVM
    - (1.3) x Load 3
    - (1.5) x Load 4
  - 7 : 1.1 CM + 1.1 CVA + 1.1 SX + 0.3 SZ
    - (1.1) x Load 3
    - (1.1) x Load 5
    - (1.1) x Load 1
    - (0.3) x Load 2
  - 8 : 1.1 CM + 1.1 CVA + 1.1 SX - 0.3 SZ
    - (1.1) x Load 3
    - (1.1) x Load 5
    - (1.1) x Load 1
    - (-0.3) x Load 2
  - 9 : 1.1 CM + 1.1 CVA - 1.1 SX + 0.3 SZ
    - (1.1) x Load 3
    - (1.1) x Load 5
    - (-1.1) x Load 1
    - (0.3) x Load 2
  - 10 : 1.1 CM + 1.1 CVA - 1.1 SX - 0.3 SZ


STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
1: SX
Modeling Building Planner Piping Bridge Deck Postprocessing Foundation Design Steel Design RAM Connection Concrete Design Advanced Slab Design Earthquake
Setup Geometry General Analysis/Print Design
Property Spec Support Load & Definition Material
Edificio - Whole Structure
Load 1
Load & Definition
New... Add... Edit ... Delete...
☐ Toggle Load
Assignment Method
○ Assign To Selected Entities
○ Assign To View
● Use Cursor To Assign
○ Assign To Edit List
Assign Close Help
For Help, press F1
Modeling Mo Load 1 : SX
Input Units: kg-m
18°C Humo
Buscar
ESP
07:36 p. m. 05/04/2024

- 1 : SX
- 2 : SZ
- 3 : CM
- 4 : CVM
- 5 : CVA
- 6 : 1.3 CM + CVM
- 7 : 1.1 CM + 1.1 CVA + 1.1 SX + 0.3 SZ
- 8 : 1.1 CM + 1.1 CVA + 1.1 SX - 0.3 SZ
- 9 : 1.1 CM + 1.1 CVA - 1.1 SX + 0.3 SZ
- 10 : 1.1 CM + 1.1 CVA - 1.1 SX - 0.3 SZ
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (-1.1) x Load 1
  - (-0.3) x Load 2
- 11 : 1.1 CM + 1.1 CVA + 1.1 SZ + 0.3 SX
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (1.1) x Load 2
  - (0.3) x Load 1
- 12 : 1.1 CM + 1.1 CVA + 1.1 SZ - 0.3 SX
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (1.1) x Load 2
  - (-0.3) x Load 1
- 13 : 1.1 CM + 1.1 CVA - 1.1 SZ + 0.3 SX


STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
1: SX
Modeling Building Planner Piping Bridge Deck Postprocessing Foundation Design Steel Design RAM Connection Concrete Design Advanced Slab Design Earthquake
Setup Geometry General Analysis/Print Design
Property Spec Support Load & Definition Material
Edificio - Whole Structure
Load 1
Load & Definition
New... Add... Edit ... Delete...
☐ Toggle Load
Assignment Method
○ Assign To Selected Entities
○ Assign To View
● Use Cursor To Assign
○ Assign To Edit List
Assign Close Help
For Help, press F1
Modeling Mo Load 1 : SX
Input Units: kg-m
MXN/USD +0.70%
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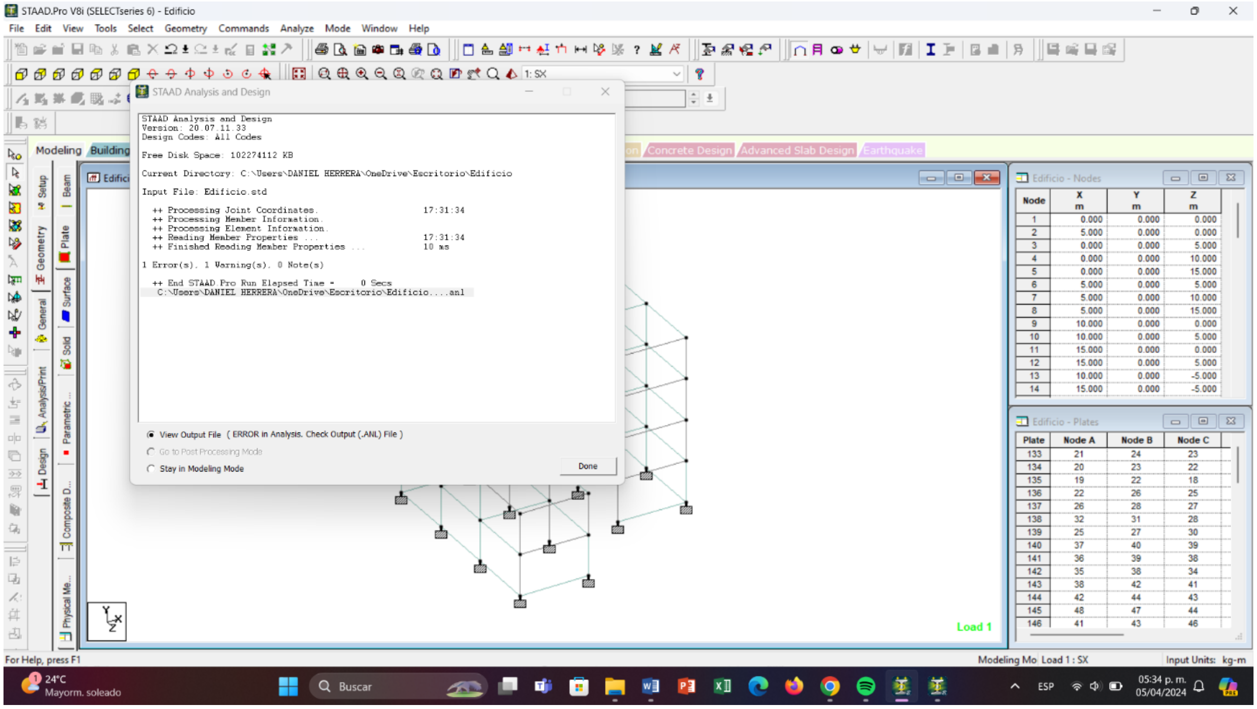
ESP
07:37 p. m. 05/04/2024

- 7 : 1.1 CM + 1.1 CVA + 1.1 SX + 0.3 SZ
- 8 : 1.1 CM + 1.1 CVA + 1.1 SX - 0.3 SZ
- 9 : 1.1 CM + 1.1 CVA - 1.1 SX + 0.3 SZ
- 10 : 1.1 CM + 1.1 CVA - 1.1 SX - 0.3 SZ
- 11 : 1.1 CM + 1.1 CVA + 1.1 SZ + 0.3 SX
- 12 : 1.1 CM + 1.1 CVA + 1.1 SZ - 0.3 SX
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (1.1) x Load 2
  - (-0.3) x Load 1
- 13 : 1.1 CM + 1.1 CVA - 1.1 SZ + 0.3 SX
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (-1.1) x Load 2
  - (0.3) x Load 1
- 14 : 1.1 CM + 1.1 CVA - 1.1 SZ - 0.3 SX
  - (1.1) x Load 3
  - (1.1) x Load 5
  - (-1.1) x Load 2
  - (-0.3) x Load 1
- 15 : 1.0 CM + 1.0 CVM
  - (1) x Load 3
  - (1) x Load 4
- **Load Envelopes**



STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
STAAD Analysis and Design
Modeling
Building
Concrete Design
Advanced Slab Design
Earthquake
Setup
Geometry
General
Analysis/Print
Design
Beam
Plate
Surface
Solid
Parametric
Composite D...
Physical Me...
Load 1
For Help, press F1
Modeling Mo
Load 1 : SX
Input Units: kg-m
24°C
Mayorm. soleado
Buscar
ESP
05:34 p. m.
05/04/2024

```
STAAD Analysis and Design
Version: 20.07.11.33
Design Codes: All Codes

Free Disk Space: 102274112 KB

Current Directory: C:\Users\DANIEL HERRERA\OneDrive\Escritorio\Edificio

Input File: Edificio.std

  ++ Processing Joint Coordinates.                    17:31:34
  ++ Processing Member Information.
  ++ Processing Element Information.
  ++ Reading Member Properties ...                    17:31:34
  ++ Finished Reading Member Properties ...           10 ms

1 Error(s), 1 Warning(s), 0 Note(s)

  ++ End STAAD.Pro Run Elapsed Time =     0 Secs
   C:\Users\DANIEL HERRERA\OneDrive\Escritorio\Edificio....anl
```

● View Output File (ERROR in Analysis. Check Output (.ANL) File)
○ Go to Post Processing Mode
○ Stay in Modeling Mode

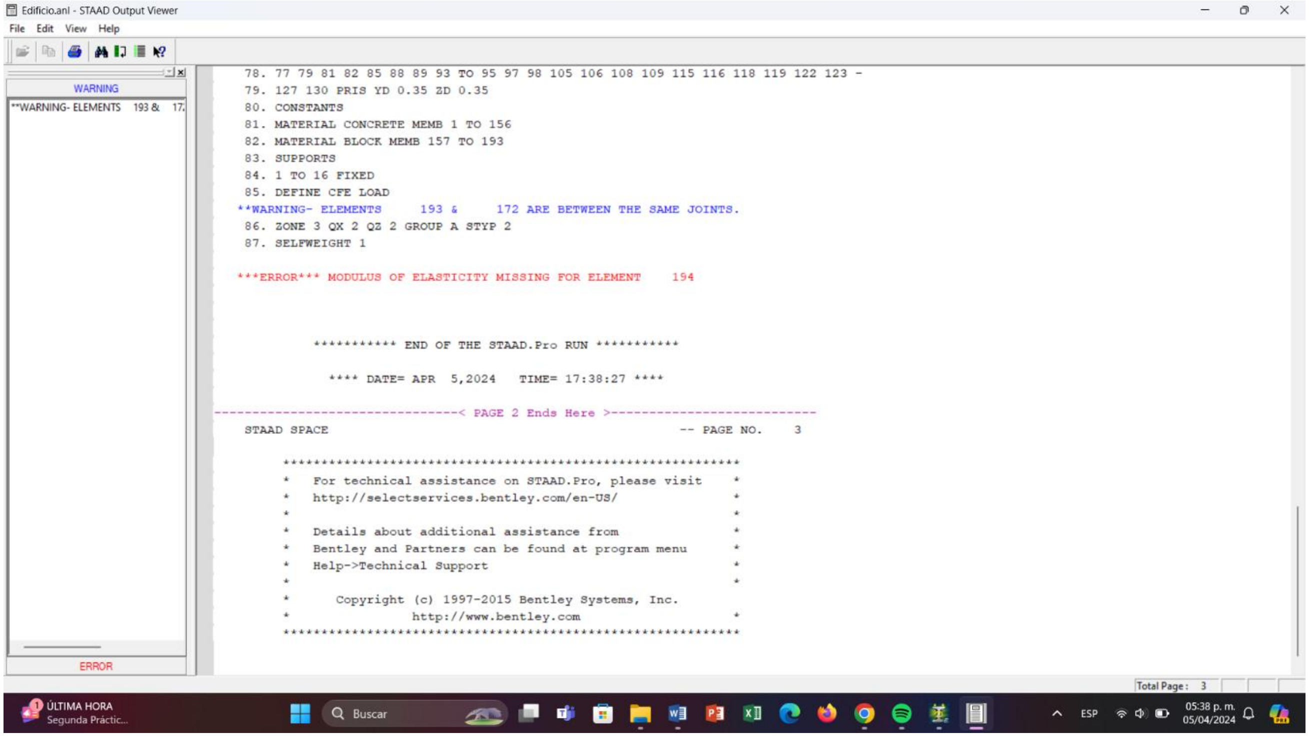
Done

Edificio - Nodes

Node	X m	Y m	Z m
1	0.000	0.000	0.000
2	5.000	0.000	0.000
3	0.000	0.000	5.000
4	0.000	0.000	10.000
5	0.000	0.000	15.000
6	5.000	0.000	5.000
7	5.000	0.000	10.000
8	5.000	0.000	15.000
9	10.000	0.000	0.000
10	10.000	0.000	5.000
11	15.000	0.000	0.000
12	15.000	0.000	5.000
13	10.000	0.000	-5.000
14	15.000	0.000	-5.000

Edificio - Plates

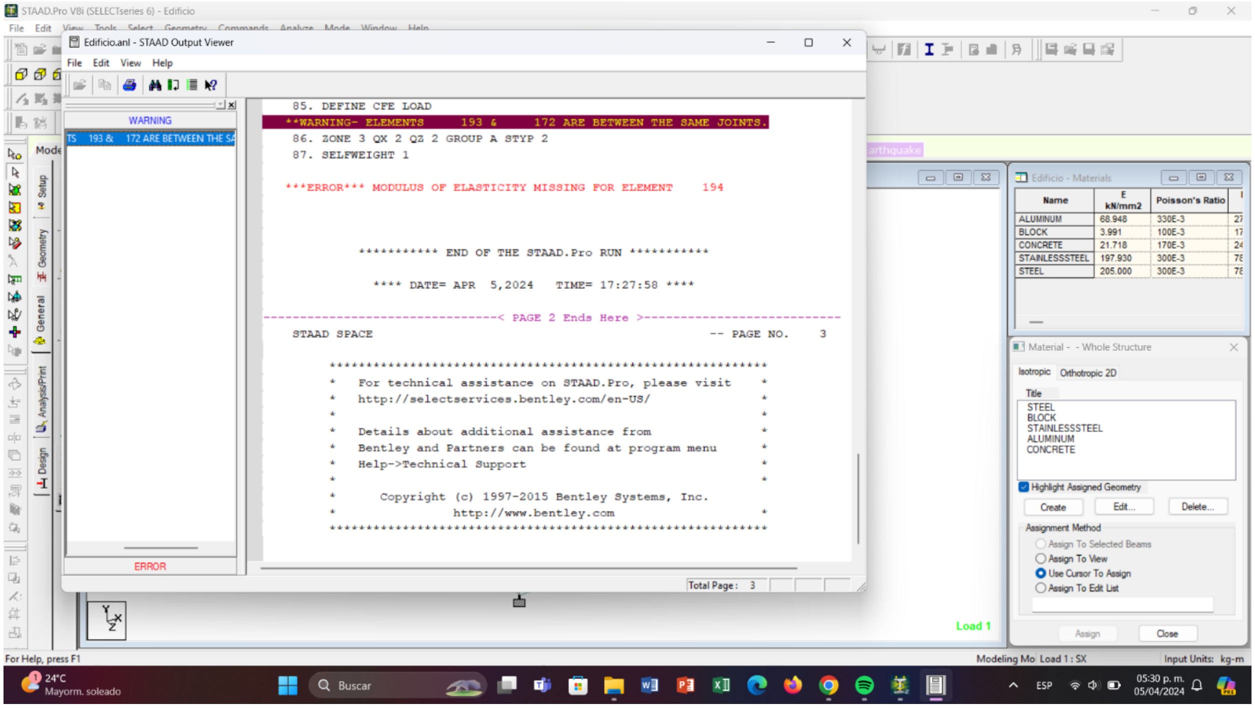
Plate	Node A	Node B	Node C
133	21	24	23
134	20	23	22
135	19	22	18
136	22	26	25
137	26	28	27
138	32	31	28
139	25	27	30
140	37	40	39
141	36	39	38
142	35	38	34
143	38	42	41
144	42	44	43
145	48	47	44
146	41	43	46



Edificio.anl - STAAD Output Viewer
File Edit View Help
WARNING
ERROR
Total Page: 3
ÚLTIMA HORA
Segunda Práctic...
Buscar
ESP
05:38 p. m.
05/04/2024

**WARNING- ELEMENTS 193 & 17

```
 78. 77 79 81 82 85 88 89 93 TO 95 97 98 105 106 108 109 115 116 118 119 122 123 -
 79. 127 130 PRIS YD 0.35 ZD 0.35
 80. CONSTANTS
 81. MATERIAL CONCRETE MEMB 1 TO 156
 82. MATERIAL BLOCK MEMB 157 TO 193
 83. SUPPORTS
 84. 1 TO 16 FIXED
 85. DEFINE CFE LOAD
**WARNING- ELEMENTS     193 &     172 ARE BETWEEN THE SAME JOINTS.
 86. ZONE 3 QX 2 QZ 2 GROUP A STYP 2
 87. SELFWEIGHT 1

***ERROR*** MODULUS OF ELASTICITY MISSING FOR ELEMENT    194



         *********** END OF THE STAAD.Pro RUN ***********

           **** DATE= APR  5,2024   TIME= 17:38:27 ****

--------------------------------< PAGE 2 Ends Here >---------------------------
    STAAD SPACE                                          -- PAGE NO.    3

         ************************************************************
         *  For technical assistance on STAAD.Pro, please visit    *
         *  http://selectservices.bentley.com/en-US/               *
         *                                                          *
         *  Details about additional assistance from               *
         *  Bentley and Partners can be found at program menu      *
         *  Help->Technical Support                                 *
         *                                                          *
         *     Copyright (c) 1997-2015 Bentley Systems, Inc.        *
         *               http://www.bentley.com                    *
         ************************************************************
```



STAAD.Pro V8i (SELECTseries 6) - Edificio
Edificio.anl - STAAD Output Viewer
File Edit View Help
WARNING
ERROR
Edificio - Materials
Material - - Whole Structure
Isotropic
Orthotropic 2D
Create
Edit...
Delete...
Assign
Close
For Help, press F1
Buscar
24°C
Mayorm. soleado
ESP
05:30 p. m.
05/04/2024

```
TS    193 &    172 ARE BETWEEN THE SA
```

```
   85. DEFINE CFE LOAD
 **WARNING- ELEMENTS      193 &      172 ARE BETWEEN THE SAME JOINTS.
   86. ZONE 3 QX 2 QZ 2 GROUP A STYP 2
   87. SELFWEIGHT 1

 ***ERROR*** MODULUS OF ELASTICITY MISSING FOR ELEMENT    194



          *********** END OF THE STAAD.Pro RUN ***********

            **** DATE= APR  5,2024   TIME= 17:27:58 ****

--------------------------------< PAGE 2 Ends Here >----------------------------
   STAAD SPACE                                              -- PAGE NO.    3

        ************************************************************
        *   For technical assistance on STAAD.Pro, please visit    *
        *   http://selectservices.bentley.com/en-US/               *
        *                                                          *
        *   Details about additional assistance from               *
        *   Bentley and Partners can be found at program menu      *
        *   Help->Technical Support                                *
        *                                                          *
        *      Copyright (c) 1997-2015 Bentley Systems, Inc.
        *               http://www.bentley.com                     *
        ************************************************************
```

Total Page: 3

Name	E kN/mm2	Poisson's Ratio	
ALUMINUM	68.948	330E-3	27
BLOCK	3.991	100E-3	17
CONCRETE	21.718	170E-3	24
STAINLESSSTEEL	197.930	300E-3	7
STEEL	205.000	300E-3	7

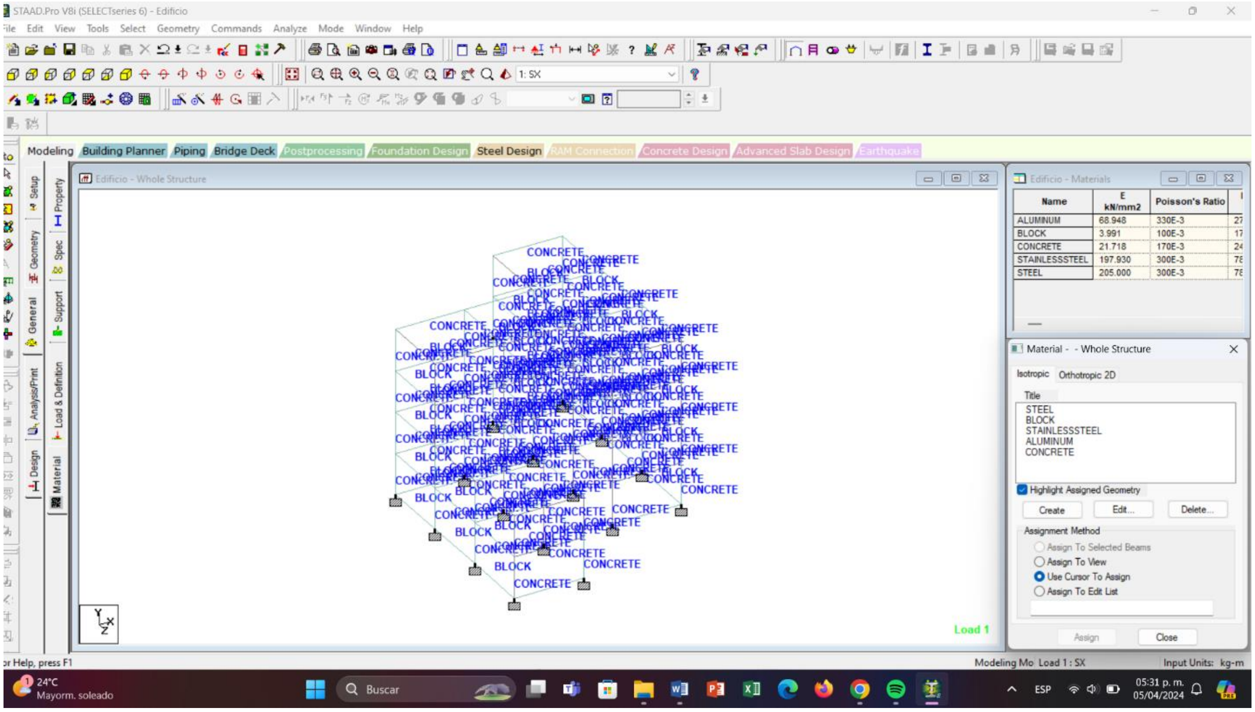
Title
STEEL
BLOCK
STAINLESSSTEEL
ALUMINUM
CONCRETE

☑ Highlight Assigned Geometry

Assignment Method
○ Assign To Selected Beams
○ Assign To View
● Use Cursor To Assign
○ Assign To Edit List

Load 1

Modeling Mo Load 1 : SX Input Units: kg-m



STAAD.Pro V8i (SELECTseries 6) - Edificio
File Edit View Tools Select Geometry Commands Analyze Mode Window Help
Modeling
Building Planner
Piping
Bridge Deck
Postprocessing
Foundation Design
Steel Design
RAM Connection
Concrete Design
Advanced Slab Design
Earthquake
Setup
Geometry
General
Analysis/Print
Design
Property
Spec
Support
Load & Definition
Material
Edificio - Whole Structure
Edificio - Materials
Material - - Whole Structure
Isotropic
Orthotropic 2D
Create
Edit...
Delete...
Assign
Close
For Help, press F1
Buscar
24°C
Mayorm. soleado
ESP
05:31 p. m.
05/04/2024

1: SX

Name	E kN/mm2	Poisson's Ratio	
ALUMINUM	68.948	330E-3	27
BLOCK	3.991	100E-3	17
CONCRETE	21.718	170E-3	24
STAINLESSSTEEL	197.930	300E-3	7
STEEL	205.000	300E-3	7

Title
STEEL
BLOCK
STAINLESSSTEEL
ALUMINUM
CONCRETE

☑ Highlight Assigned Geometry

Assignment Method
○ Assign To Selected Beams
○ Assign To View
● Use Cursor To Assign
○ Assign To Edit List

Load 1

Modeling Mo Load 1 : SX Input Units: kg-m