**Room 15-20240430 155939-Meeting Recording**

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So Dan, you have approximately one hour to finish your slides. And in between your slides, you can take a little break if you want. And basically, two hours, however you want.

How do you love me? How do you love me? How do you love me? You should know that better than I do. You should know that better than I do. Because everyone has something different.

Okay. I'm going to sit here so I have less pick-up for you. ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... Thus offering resistance against free rotations.

Methods here, the potential portal is just an example. Substituting one beam for a rod does not create a fixed connection by itself. Substitution by a single beam is still unstable.

You do not need to consider buckling, therefore the direction in which the diagonal rod position does not matter and cross-bracing is not necessary. There are two conditions for the placement of rod elements. Structural elements are not allowed to span diagonally through the interior of a space.

Structural elements are not allowed to span diagonally through the interior of a space. An element should not span more than one bay. What is a bay? So one bay is basically this, right? So if I say I have another portal, I can't do this.

Is that correct? So an element should not span more than one bay? That means I have to stay within this portal? Okay, thank you. Any structural design consisting of rods and beams? A term of suggestion can be asked after which a rod or set of beams is placed. For the message, the structure is unstable.

Okay. Human AI Stabilized Assessment Assignment. 20 minutes.

Read the following instructions carefully. You will be given a moment to go through a design task. It is important that you say aloud everything that you think or do in designing.

So in every step, explain what you do and why you do it. Try to keep speaking constantly and do not be silent for more than 20 seconds. Please speak English.

Good luck. Are you sure you want to continue? Once you continue the step, you cannot go back to the step. Continue for a few seconds.

Okay. Oh. Stabilize the structural design with minimal structural adjustments.

You may use AI suggestions up to a maximum of seven times. Say aloud everything you think and do. Thus, explain your reasoning.

The structure consists of... Wait, am I supposed to not use AI at all? Or can I use the suggestions? Initial structural design. Stabilization methods. Yeah.

After which a rod or set... So in this program, a suggestion can be asked after which a rod or set of beams is placed. Or the message. The structure is stable.

Cool. Stabilize the structure. Blah, blah, blah.

The structure consists of rods connected by hinges. Displacements are constrained at ground level. Displacements are constrained at ground level.

A rod is always connected to the structure with a hinged connection and a beam with a fixed connection. A rod is always connected to the structure with a hinged connection and a beam with a fixed connection. Yes.

Please refer to the information sheet for the whole explanation. Let's see if the transcription is doing it well. Okay, nice.

Add elements. Replace rod. Can I... Oh, yeah.

There we go. Okay. So... It's not braced in any direction.

It's not braced in Z-X direction. It's not braced in the Z-Y plane or in the X-Y plane. So... And floor one is not braced.

Add rod diagonally. Let's see if this works. Enter two opposite members to place the diagonal between.

Two opposite members. So, like, column... Oh, shit. Column 179144.

Okay. 179144. Yes.

Are you sure you want to continue? Once you continue to the next step, you cannot go back. Continuing... No. Wait.

Add a diagonal rod. I want to place it. Enter two opposite members.

Oh, there we go. Okay. Now we have braced floor one in the Z-X plane.

I also need to brace floor two in the Z-X plane. Diagonal rod between 181 and 167. Oops.

167. Oh, why did it... Why did it become black? Okay. So now floor one and two are braced in the Z-X.

Now I need to brace floor one and two in the Z-Y plane. So I can do... I brace between 195 and 179. And that's floor one.

And I brace between 203 and 181. Yeah. Okay.

So now floor two is braced in the Z-Y. Now I still need to brace in the Y-X direction. And I can do that by... Let's see.

So if I were to rotate the structure at the top... If I look at it from the top, I could add a brace to... Add a brace between that first square. Okay. So floor one I could brace between 159, 191, 159, 191.

Yes. Although I'm not sure if that's really stable yet. Because there's a brace lacking between... Yeah.

There's a brace lacking there. Between column 187 and 195. So I should add an extra brace.

Because it... No, that's not necessary because I've already formed a triangle. I need to add one more diagonal to stabilize floor two. Just do the same idea, same placement.

So that's 163 and 204. 163, 204. Okay, well, I'm curious if it's stable now.

I'm not sure. If I blow on the Z-Y plane with wind, I am braced on the right side. But not on the left side, so I need to brace the left side as well.

I will put a brace between 157 and 253. 157, 253. Yep.

Now I could blow wind on the Z-Y direction. If I blow wind on the Z-X direction, I have braced it on the left side. But I need to also brace on the right side, otherwise I get a mechanism.

So I will add a brace to 213, 213 too. Well, does that occur? Can the structure rotate? Yes, it can. The whole portal from 147 to 158 can still hinge.

So that's dangerous. That needs to be braced. Also the portal from 220 to 258, that comes next.

I will add a brace from 147 to 213. That portal is braced in the Z-Y plane. I also need to brace the other portals.

220, we can't brace there because there's no column. But I guess that's fine. 220 to 235.

What was it, 235? 220 to 235, that's right. And I need to brace 144 to 187. Brace, yes.

Portal, the most right portal and the two middle portals and the left portal have been braced in the Z-Y plane. I need to do the same in the Z-X plane. So the rightmost portal has been braced.

Now I will brace the, oh crap, I should not forget floor 2, obviously. 170 to 169. 170 to 169.

Why didn't it work? Oh, wait a second. With minimal structural adjustments, you may use AI suggestions. Up to a maximum of 7 times, blah blah blah.

The structure consists of a road connected by beams. Displacements are constrained. Can't I just, have I hit a limit? No, it's there.

167 to 168. 167 to 168. Is that correct? 67 to 68, that's right.

Okay. And, yup. And now in the Z-X direction, the rightmost portal has, the rightmost frame has been stabilized in the X, in the first floor and second floor.

The portal left to that needs to be stabilized. In, oh wait a sec, I'm not allowed to span the internal space. Wait a minute, that's not allowed.

Replace, oh gosh. Replace rod by beam, delete diagonal rod. I want to delete 275.

And, and what has now become 275 as well. Cannot have those, and I cannot have 276 either. 276.

Because they cross the inner space. Okay, so how can I brace those frames anyway? I can make 163, 168 a beam. So, replace rod by beam.

Remember to replace. Let's replace 163 and 168. If I connect those two, that has a moment.

It can take a moment. 163, okay we'll first do 163. Then we do 168.

Oops. Replace beam by rod. That was a mistake.

275 should be the rod. Replace rod by beam. Which one is it? 167.

167. Yup. Okay, clear.

Now we're good. In the Z-Y direction. Now the Z-X direction.

So, the rightmost portal has been fixed. The leftmost portal has been fixed. The right inner portal needs to be braced.

I can make the connection. Well, if column 192 and 200 are hinged connections, that needs to be a single door loop and a continuous column. So we should make that into a beam, I guess.

Replace rod by beam. 192, 200. 192.

Yeah, 192. Replace rod by beam. And 199.

Now it has turned into 199. Yes, that's correct. And in order to make this, to brace this frame, I can connect 275 to 168 by a beam.

Oh, sorry. 168. Oh, that's not the beam that I wanted.

Replace beam by rod. 198. Is that 198? It's 275.

275. 275 should be a rod. And that's... Okay, beam 200.

Replace rod by beam. 200. Yes.

That is now stable. That portal is stable. We need to stabilize the portal left to that.

So I can turn 156, 178 into a beam connection. 156. Replace rod by beam.

177 now. Okay, that's stable. So now we've stabilized the ZX plane and the ZY plane for all the portals.

And now I need to stabilize the XY plane, which is easier seen from above. I can do this with only rods. Add a rod diagonally.

Let's see if... How does this work again? So if wind is blowing on the XZ plane, all the portals are braced, so they shouldn't move. Neither in the ZX, ZY plane. Dang.

Let's see. I'm curious for the AI suggestion. What is the suggestion? What did it add? I don't see the suggestion.

Wait a second. Add 276. Oh, I see.

is really I didn't have that oh my gosh that is certainly necessary um well let's what wait a second no no that's not necessary is that is it always going to make no it's not it makes different suggestions so how does that help um well so so I guess if you place a force on the corner of the top of column 271 the yes okay I understand I see like to add a diagonal rod between 100 what is that column what does that beam 162 and 170 162 to 170 oh that's not quite what I wanted that looks a bit weird does it work yeah it works it works also between wait so if I add it goes like that okay so I'm gonna add it one as well to 164 to 162 well I'm not sure about that diagonal rod let me remove it date delete diagonal rod number which one is it 277 remove that add a diagonal rod between let's see if it does it correctly now 169 to 171 169 to 171 no if I add it in the opposite direction 171 169 yes that's right now I want to add a rod between 164 and 162 164 162 that's right and 160 no 273 142 73 142 nice and so now floor one has been stabilized now I need to stabilize sorry floor two has been stabilized now I need to stabilize floor two in the zy plane okay I'm gonna draw it diagonally I hope I can see all of them now that's fine um between let's see 168 and 272 168 272 okay and now between 155 and 254 nice well actually that's is that necessary I don't need to brace each square I'm going to delete that one 281 I learned this in school well actually I need to so in school I learned I could make a cross how many can I add across in one portal to be more efficient with the beam 167 to 245 um no I don't need a cross because that's only if your element is uh if you can only take tension this rod can take tension and compression so 167 245 167 245 that's now stable I don't care that it's in a different direction it's a bit unsatisfying and 160 to 158 160 158 nice and now I need to stabilize um the other direction as well I can do that most easily between 242 145 242 145 154 yeah and one more rod 155 to 240 254 254 okay well I'd say it's stable the structure is stable fantastic much did you enjoy performing this assessment um it was a little bit confronting without feedback so I guess a three please explain your answer no I'm not going to say that it was a bit challenging because uh my knowledge of the basics is not very salient to me right now next how would you rate the level of ease in performing the assessment well that's actually my previous answer oh yeah there are many portals and um the rules the rules of the assignment made it a bit uh more complex I was not allowed to brace within a space I okay yeah the level of ease well did eventually get it so how well do you think you performed this assignment I think I did pretty well but maybe could have been more efficient I could have made some mistakes I have no idea what I'm doing probably unstable redundant members confidence stable little redundancy well I say I'd say four I am pretty confident do you think it would have gone better without the assistance of an AI tool no I I liked it I liked the reassurance that the structure was stable I liked do you think the AI tool itself can perform stabilization better than you um well not sure honestly um I felt like one of its suggestions was redundant what criteria what criteria did you keep in mind while performing this assignment structural aesthetical functional stability um oh I didn't care about the aesthetical um probably functional not crossing interior space with braces using beams instead of um rods for this purpose stability um imagining the way the structure would react to to loading in various planes please leave your email my student name thank you for your participation this is the end of the assignment don't forget to follow the after assignment steps okay after the assignment oh after the first more record and transcribe stop sharing check whether transcription has also stopped it is now automatically saved in teams before starting the next assignment go through all the steps again oh I see so more record and transcribe stop sharing stop sharing more record and transcribe stop recording stop recording and transcript

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