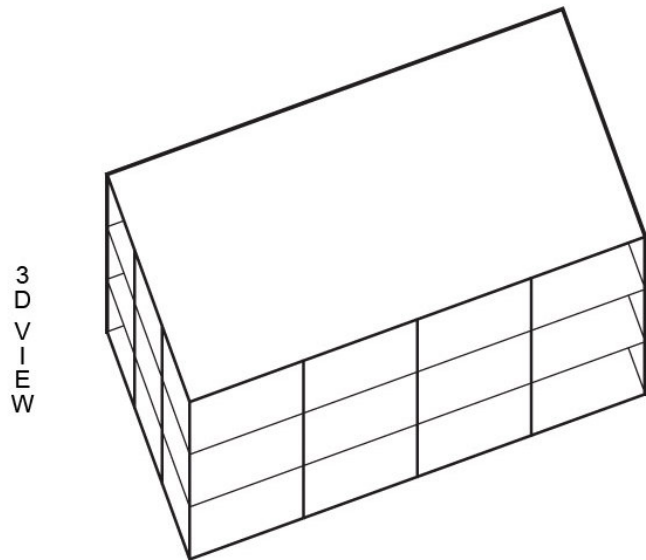
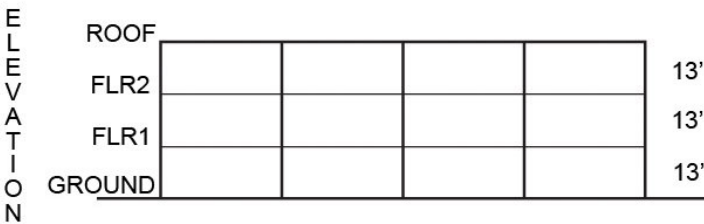
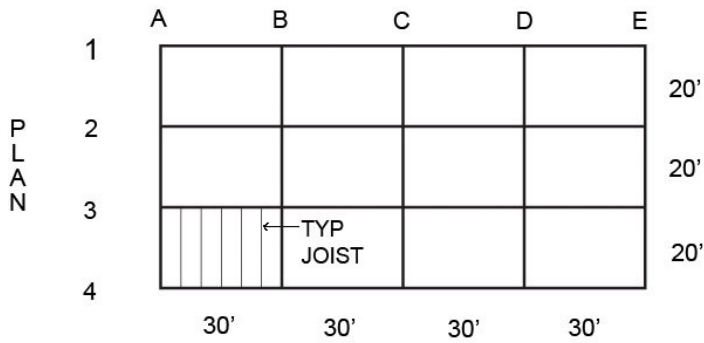


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2006S
Homework 2, 3



Steel Frame

Live Loads: Roof 40 lbs/ft²
Floor 100 lbs/ft²
Wind 20 lbs/ft²

Dead Loads Roof 40 lbs/ft²
Floor 60 lbs/ft²

Steel: F_b 50,000 lbs/in²

Compute the following Values:

1. End Reaction in typical int. roof joist (F_{yr}) _____
2. End Reaction in typical int. floor joist (F_{yr}) _____
3. End Reaction, Roof Girder B3-C3 (F_{yr}) _____
4. End Reaction Floor Girder B3-C3 (F_{yr}) _____
5. Maximum Load in Column B3 (F_{yr}) _____
6. Maximum Load in Column A3 (F_{yr}) _____
7. Maximum Moment in int. roof joist (M_{max}) _____
8. Maximum Moment in int. floor joist (M_{max}) _____
9. Maximum Moment in Roof Girder B3-C3 _____
10. Maximum Moment in Floor Girder B3-C3 _____
11. Section Modulus, Roof Girder B3-C3, (S) _____
Using factor of safety of .66
12. Section Modulus, Floor Girder B3-C3, (S) _____
Using factor of safety of .66