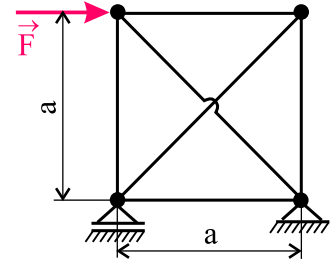

Problem 416

Determine the safety factor of the strut frame in the figure against the limit state of elasticity. All the bars are homogeneous, made of the same material and of the same diameter $\varnothing d$.

Input values:

$$a = 1 \text{ m}, \quad \varnothing d = 30 \text{ mm} \quad E = 2 \cdot 10^5 \text{ MPa},$$
$$F = 10^5 \text{ N}, \quad \sigma_K = 350 \text{ MPa}.$$



tension systems with bars