

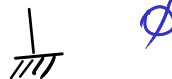
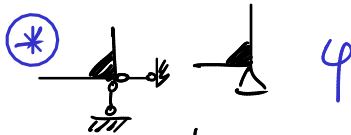
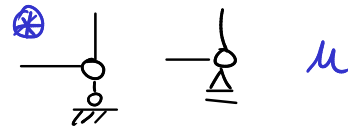
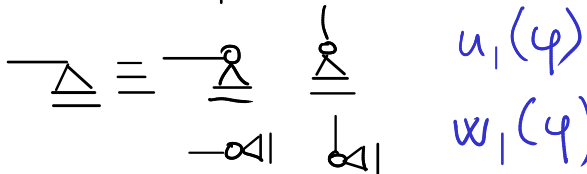
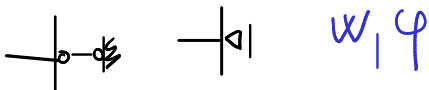
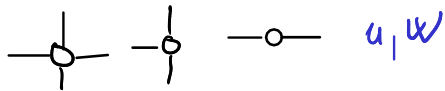
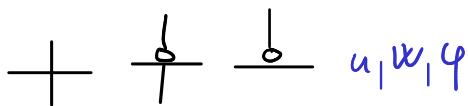
OBECA' DEFORMAČNÍ' METODA (ODM)

Stupeň přetvarné neurčitosti

ZKRAČENA' VARIANTA

- počet uzna'ujících deformací

(tab. 10.1, str. 232)



$$n_p = 3t + 2k + p - p_w$$

t... počet monolických (tuhých) styčníků

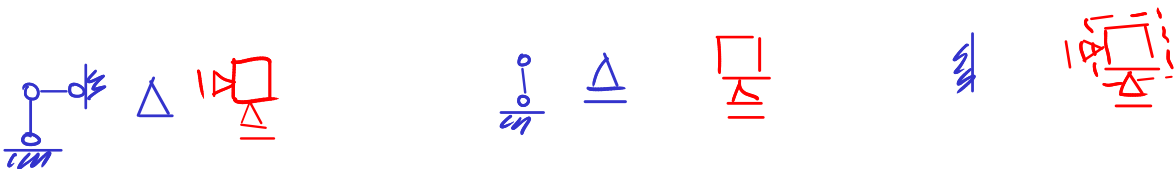
k... počet kloubových styčníků

p... počet jednoduchých posuvných podpěr

p_w ... počet vnějších vazeb umístěných u styčníků
a přepočtených na jednosobné vazby

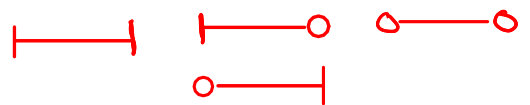
- pro zjednodušení ručních výpočtů budeme určovat
minimální stupeň přetvarné neurčitosti

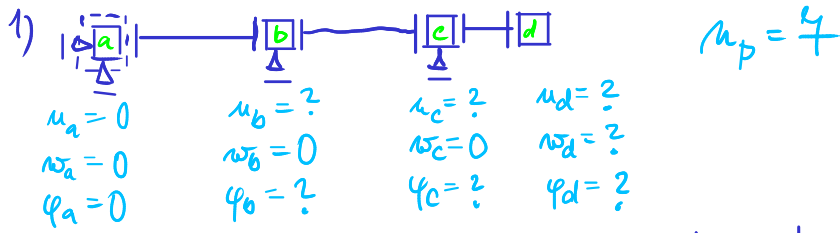
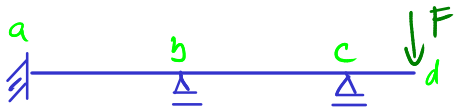
- místo vzorečku je lepší určit $n_{p,min}$ na základě
výpočtového modelu



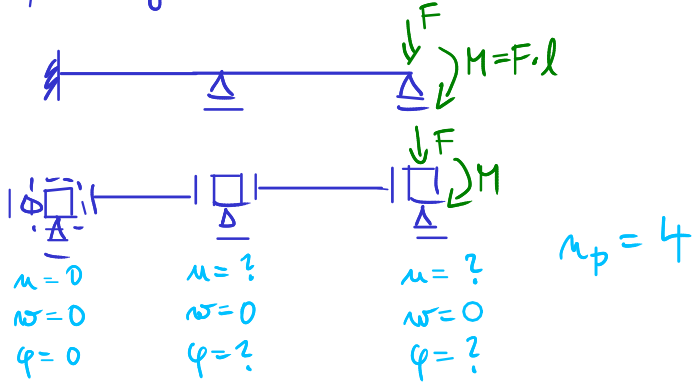
styčník

pruty

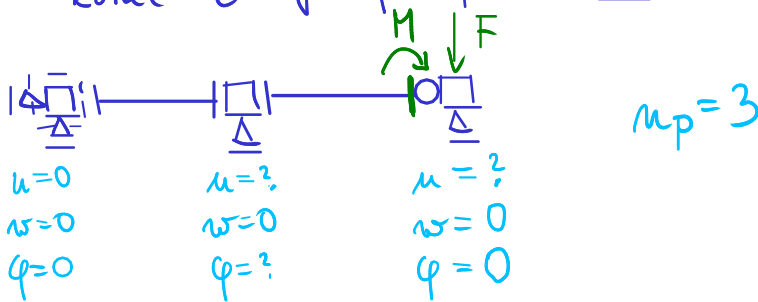




2) převislý konec - můžeme odstranit a nahradit interakcemi

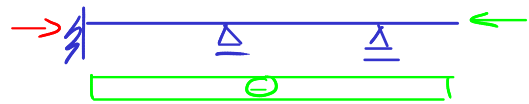
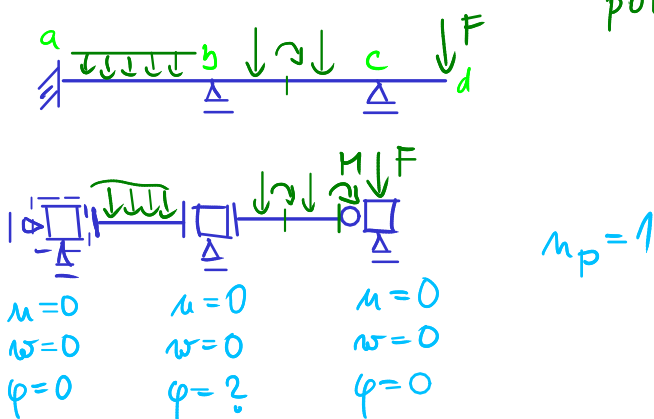


- konec "c" je podpěrem Δ



3) s ohledem na zatížení

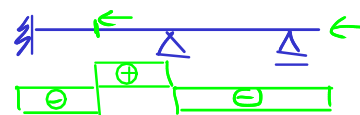
pouze příčné zatížení $\Rightarrow$ nedochází k vodorovnému posunu u_c, u_b



4) vzoreček

$n_p = 3 \cdot 1 + 2 \cdot 0 + 1 - 1 = 3$

pozn. $n_s = 2x$





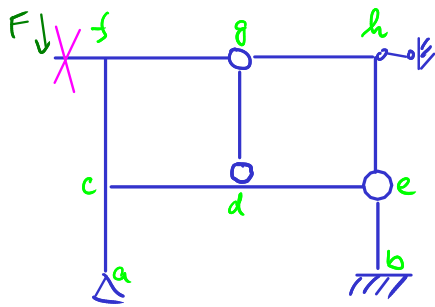
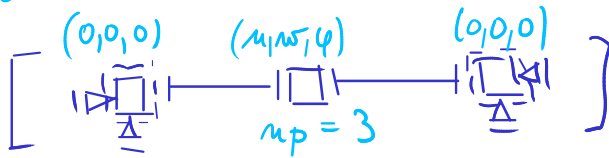
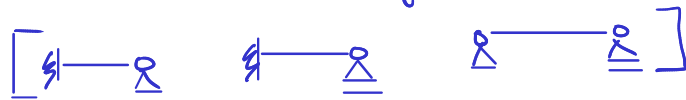
- jedná se přímo o základní typ prutu ---
 $\Rightarrow$ stačí použít vektory pro daný typ (tabulky)



$$n_p = 0$$

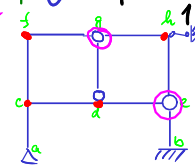
$$\begin{aligned} n &= 0 \\ w &= 0 \\ \varphi &= 0 \end{aligned}$$

$$\begin{aligned} n &= 0 \\ w &= 0 \\ \varphi &= 0 \end{aligned}$$

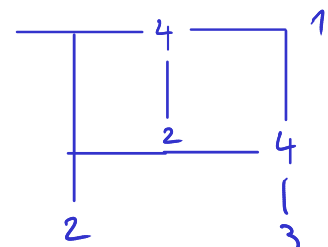


* - převislý konec odstraníme a účinky přesuneme do (f)

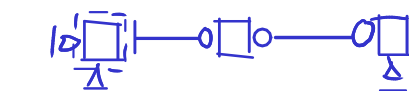
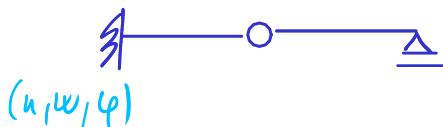
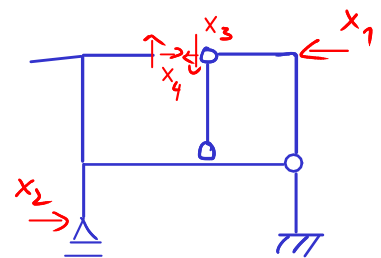
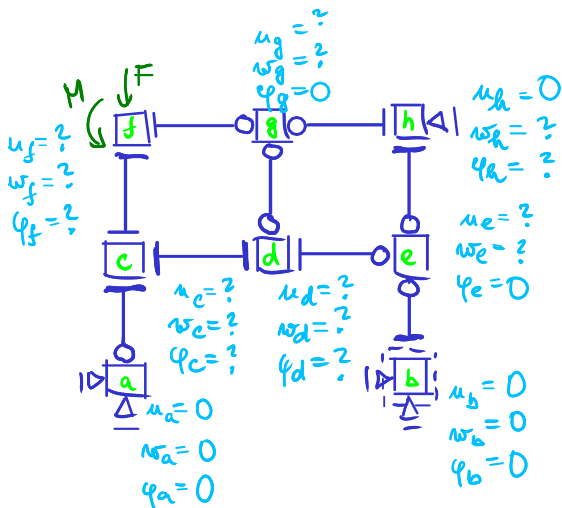
$$(n_p = 3 \cdot 4 + 2 \cdot 2 + 0 - 1 = 15)$$



$$n_p = 15$$

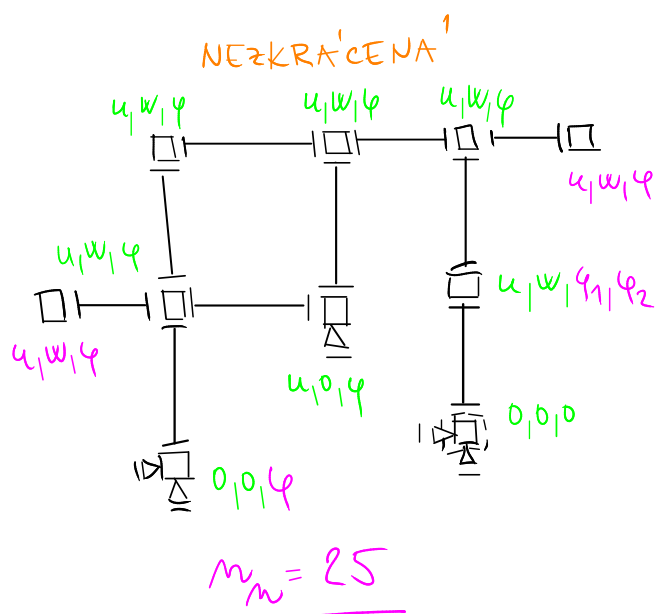
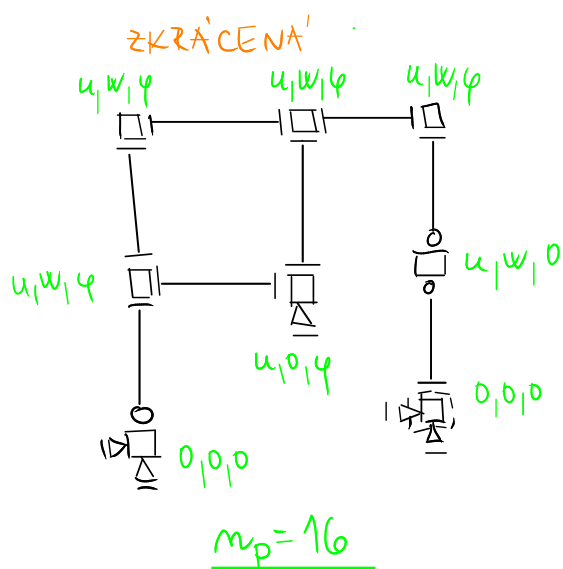
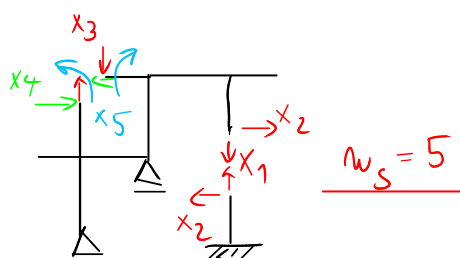
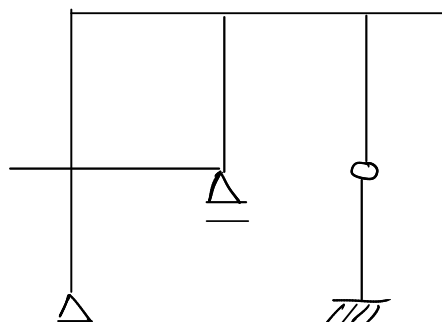
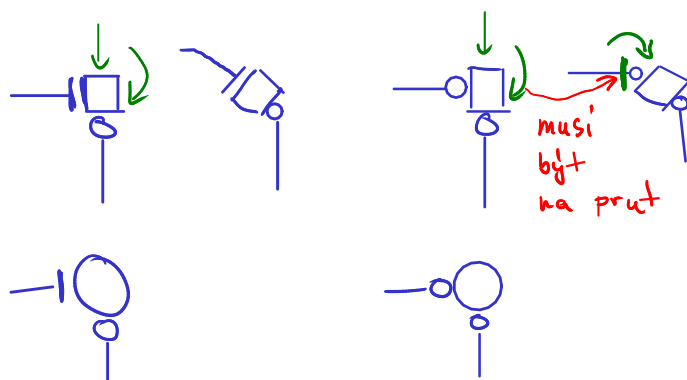
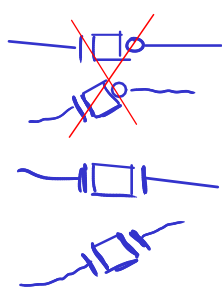
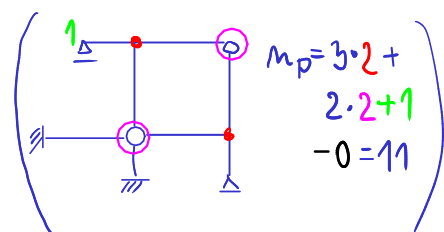
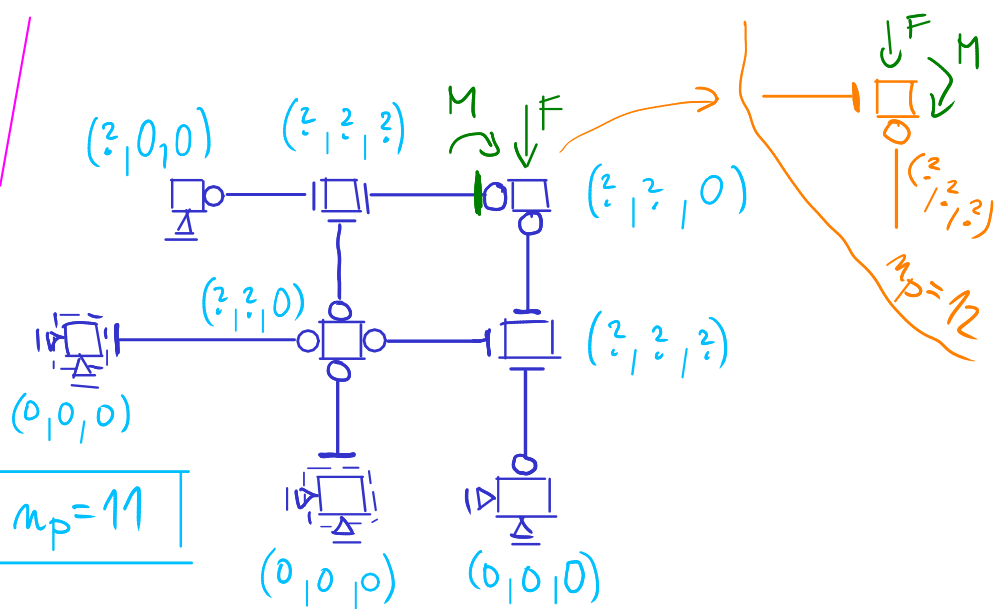


$$n_s = 16 - 3 \cdot 4 = 4$$

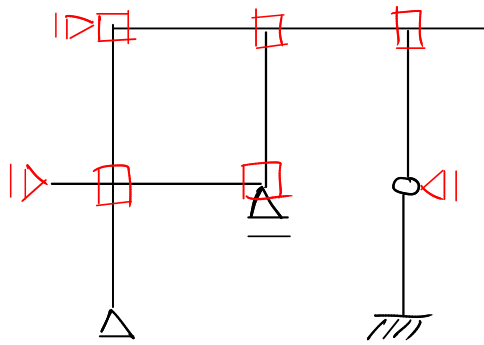


$$\begin{pmatrix} 0 & 0 & 0 \end{pmatrix} \quad \begin{pmatrix} 2 & 2 & 0 \\ 0 & 2 & 0 \end{pmatrix} \quad \begin{pmatrix} 2 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$

$$\begin{aligned} n_p &= 3 \\ n_s &= 1 \end{aligned}$$

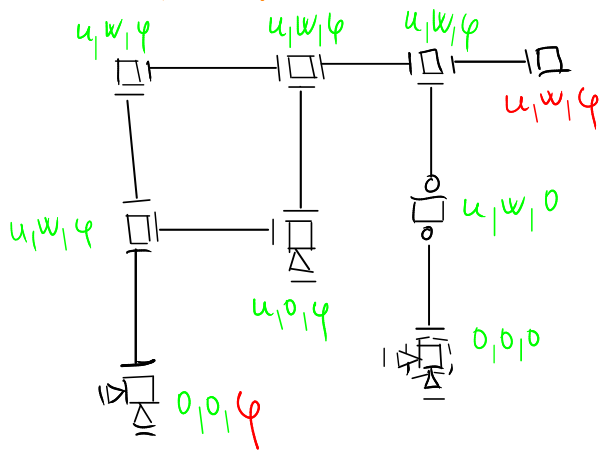


ZJEDNODUŠENA'



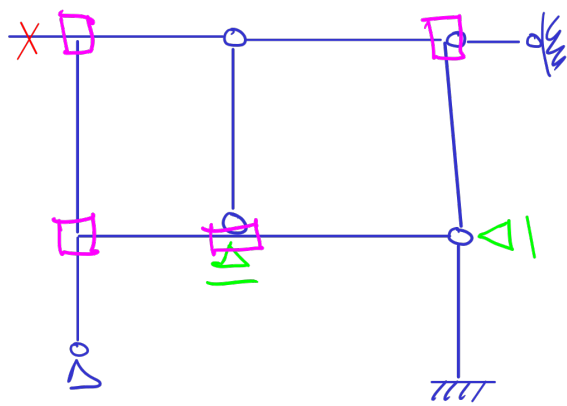
$$m_{pz} = 5 + 3 = \underline{\underline{8}}$$

model, který bude mít $m_p = 20$



ZJEDNODUŠENA'

statická část
určitá část



→ zabráněno posunu

→ nebráněno

také styčníky

$$m_{pz} = 4 + 2 = \underline{\underline{6}}$$

zabráněno
posunu

nebráněno

zabráněno