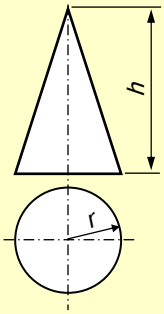
1-1. naloga: volumen stožca

$$V_{\text{stožca}} = \frac{\pi r^2 h}{3}$$



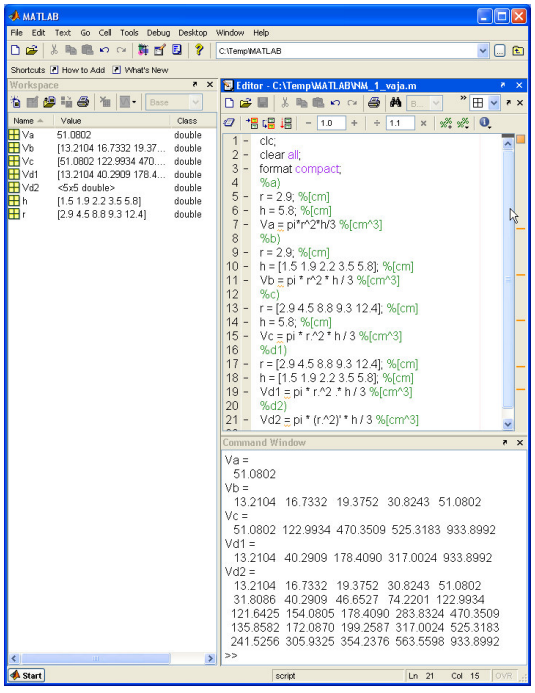
a) r = 2.9 cm
h = 5.8 cm

b) r = 2.9 cm
h = 1.5, 1.9, 2.2, 3.5, 5.8 [cm]

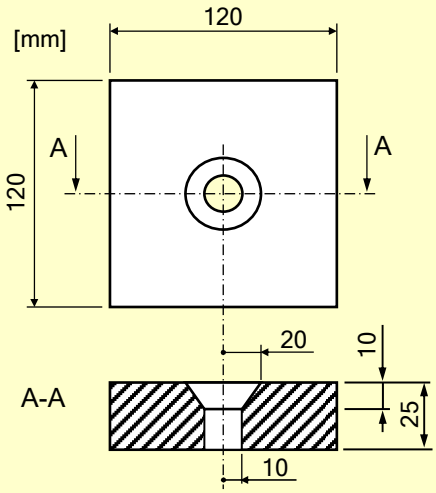
c) r = 2.9, 4.5, 8.8, 9.3, 12.4 [cm]
h = 5.8 cm

d) r = 2.9, 4.5, 8.8, 9.3,12.4 [cm]
h = 1.5, 1.9, 2.2, 3.5, 5.8 [cm]

1-1. naloga: volumen stožca



1-2. naloga: masa plošče z izvrtino



$\rho = 7800\ \text{kg/m}^3$

$$m = V \cdot \rho$$

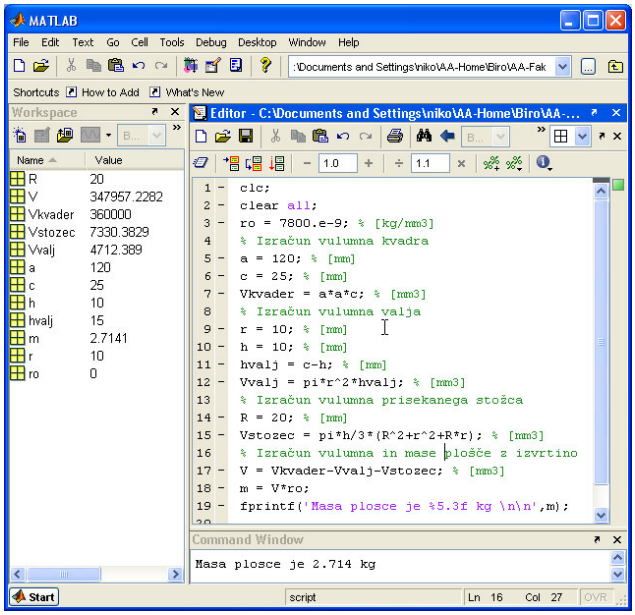
$$V_{\text{kvader}} = a \cdot b \cdot c$$

$$V_{\text{valj}} = \pi \cdot r^2 \cdot h$$

$$V_{\text{pr\_stožec}} = \frac{\pi \cdot h}{3}\left(R^2 + r^2 + R \cdot r\right)$$

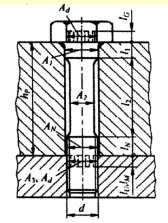
NM: V-I/3

1-2. naloga: masa plošče z izvrtino



NM: V-I/4

1-3. naloga: izračun momenta za dosego sile prednapetja



F = 12 kN

d_v = 15 mm

d_m = 23 mm

β = 30°

h = 2 mm

μ_v = 0.1

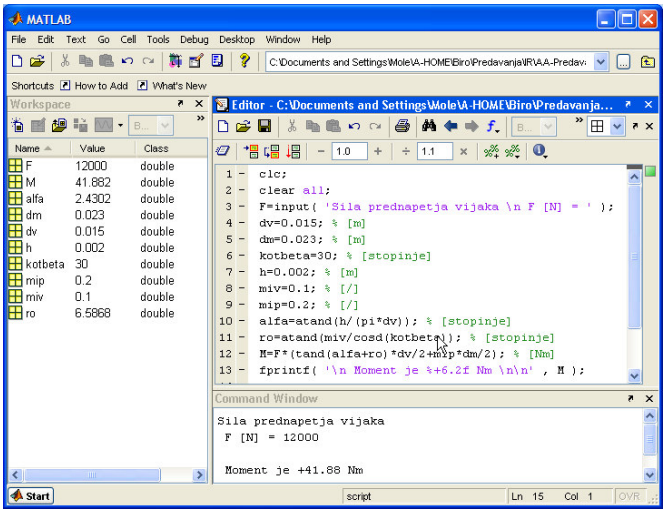
μ_p = 0.2

$$\alpha = \arctan\left(\frac{h}{\pi d_v}\right)$$

$$\rho = \arctan\left(\frac{\mu_v}{\cos(\beta)}\right)$$

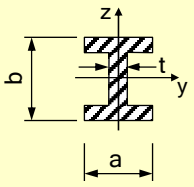
$$M = F\left\{\tan(\alpha+\rho)\frac{d_v}{2} + \mu_p \frac{d_m}{2}\right\}$$

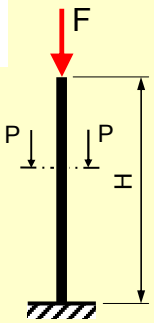
1-3. naloga: izračun momenta za dosego sile prednapetja



1-4. naloga: uklon nosilca

prerez P-P





F = 100 kN
H = 2,2 m
E = 200000 MPa
β = 2
a = 80 mm
b = 120 mm
t = 12 mm

$$A = 2at + (b-2t)t$$

$$I_y = \frac{ab^3}{12} - \frac{(a-t)(b-2t)^3}{12} \quad , \quad I_z = \frac{2ta^3}{12} + \frac{(b-2t)t^3}{12}$$

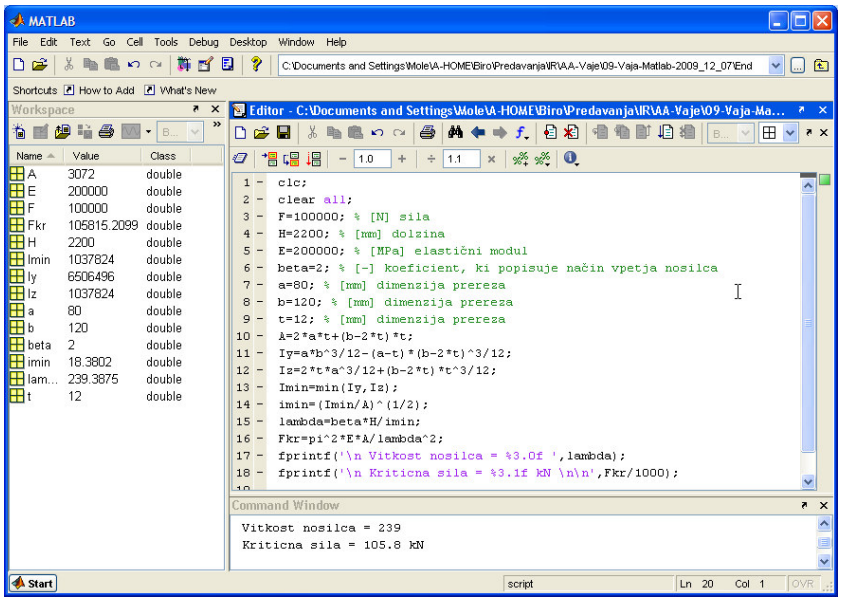
$$I_{\min} = \min(I_y, I_z) \quad , \quad i_{\min} = \sqrt[2]{\frac{I_{\min}}{A}} \quad , \lambda = \frac{\beta H}{i_{\min}}$$

$$F_{kr} = \frac{\pi^2 E A}{\lambda^2} \quad , 105 < \lambda < 250$$

$$F < F_{kr}$$

NM: V-I/7

1-4. naloga: uklon nosilca



NM: V-I/8