

Inženjersko crtanje primenom računara

šk. 2023/24. godina

II semestar

Fond časova: 2+2



P₂

111 p

Tačka u Dekartovom
pravouglom
koordinatnom
sistemu:

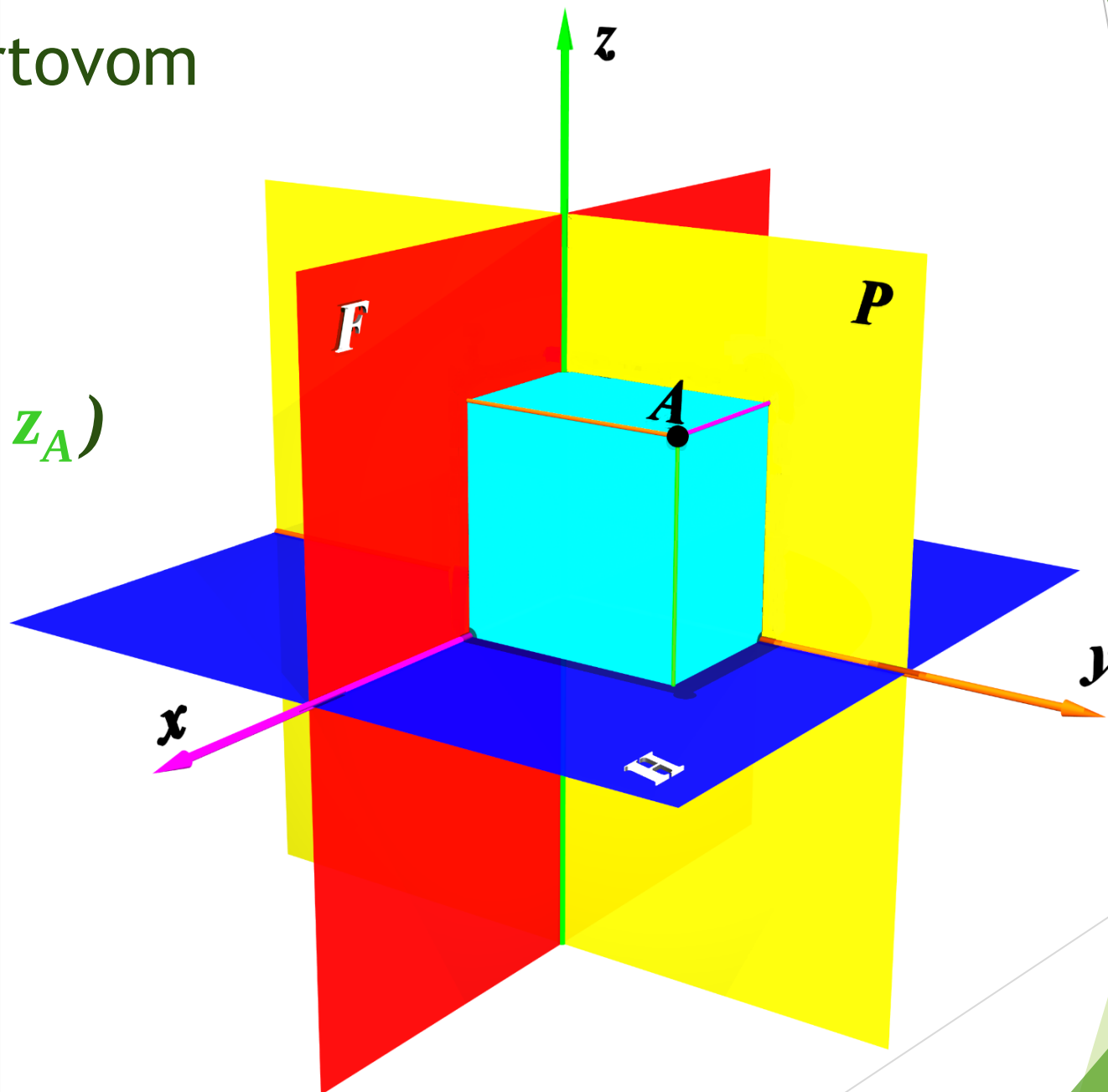
$$A(x_A, y_A, z_A)$$

Prave:

$$x = H \cap F$$

$$y = H \cap P$$

$$z = F \cap P$$

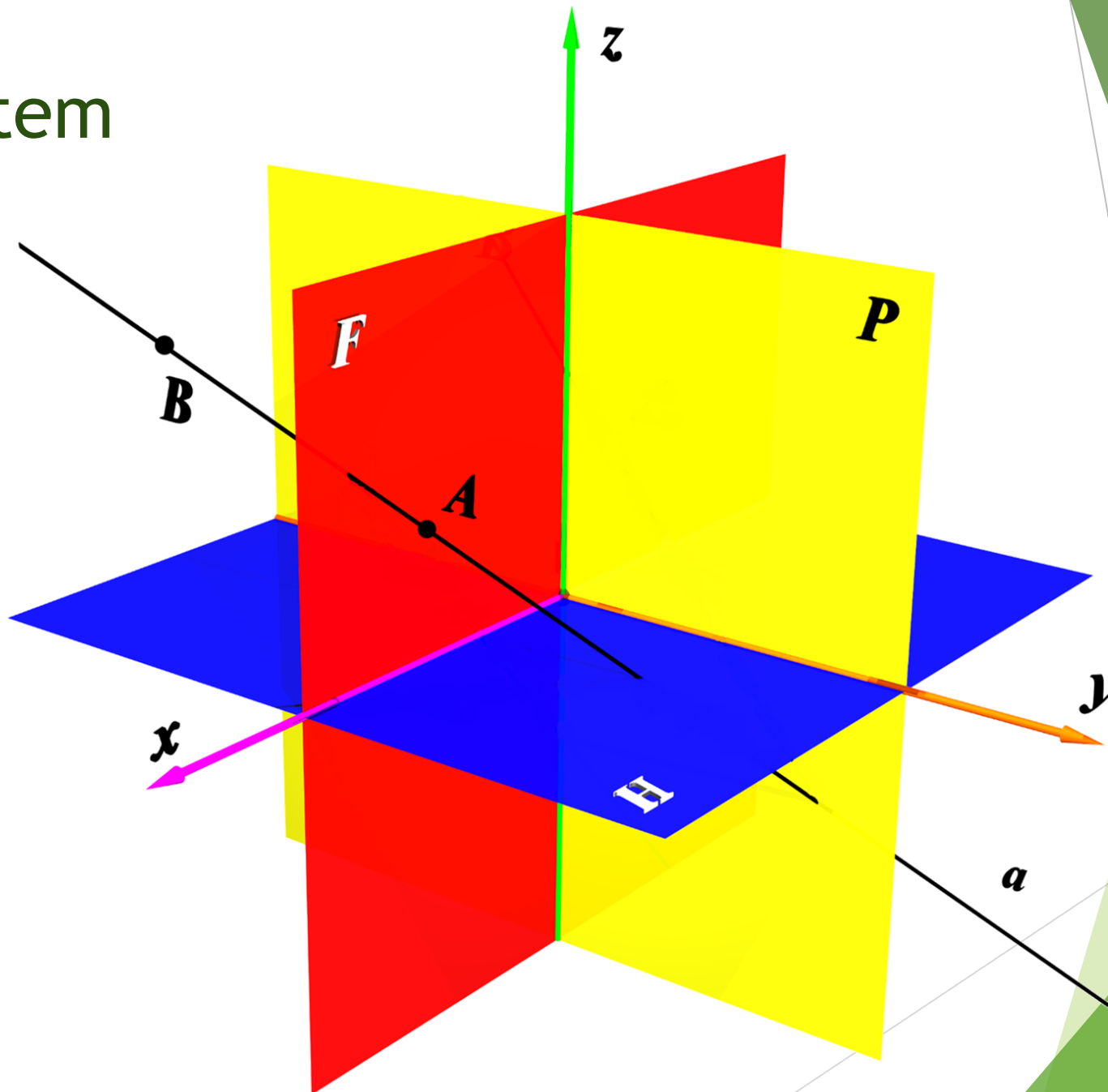


Prava u opštem
položaju:

$$a(A, B)$$

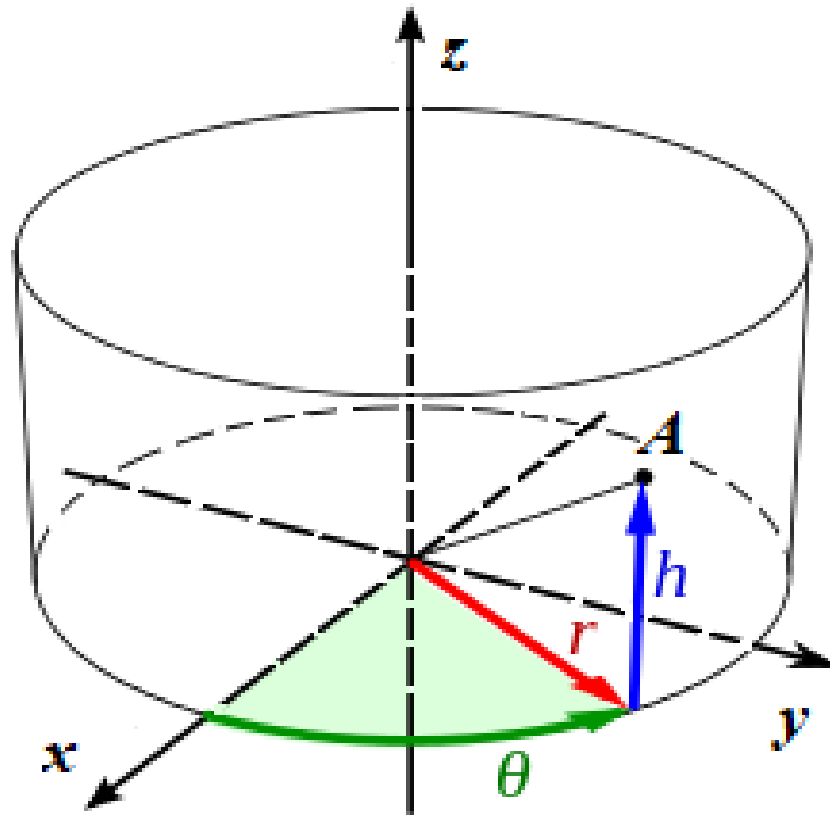
$$A(x_A, y_A, z_A)$$

$$B(x_B, y_B, z_B)$$



Tačka u cilindričnom koordinatnom sistemu:

$A(r, \theta, h)$



Polarne koordinate tačke

Cilindrične $\rightleftarrows$ Dekartove

$$r = \sqrt{x^2 + y^2}$$

$$\theta = \arctg\left(\frac{y}{x}\right)$$

$$h = z$$

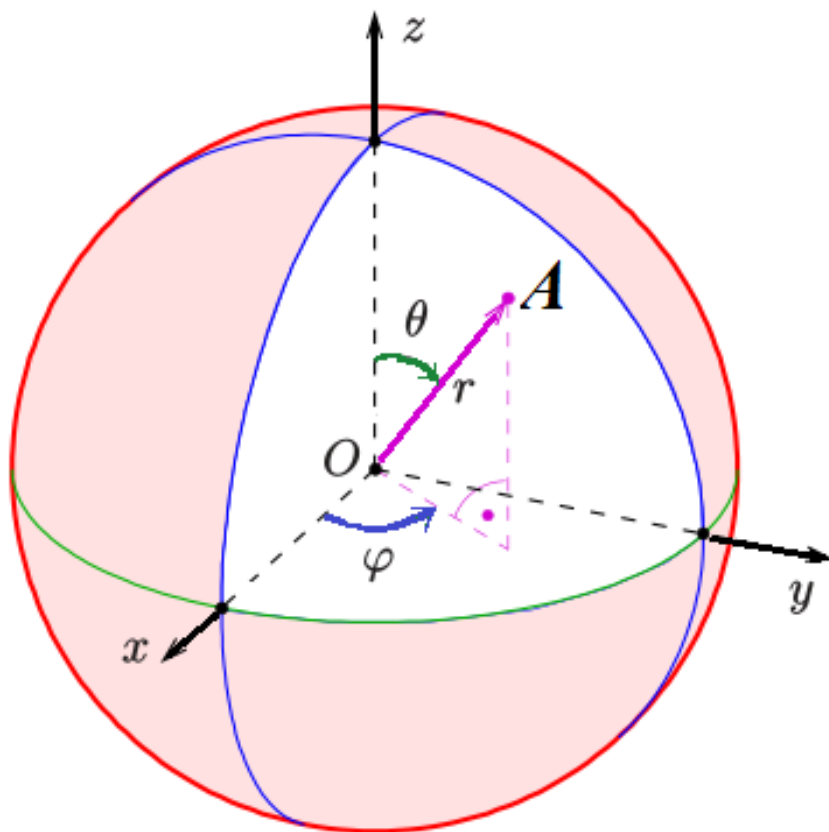
$$x = r \cos \theta$$

$$y = r \sin \theta$$

$$z = h$$

Tačka u sfernom koordinatnom sistemu:

$$A(\mathbf{r}, \theta, \varphi)$$



Sferne koordinate tačke

Sferne $\rightleftarrows$ Dekartove

$$r = \sqrt{x^2 + y^2 + z^2}$$

$$\theta = \arccos \frac{z}{\sqrt{x^2 + y^2 + z^2}} = \arccos \frac{z}{r}$$

$$\varphi = \arctan \frac{y}{x}$$

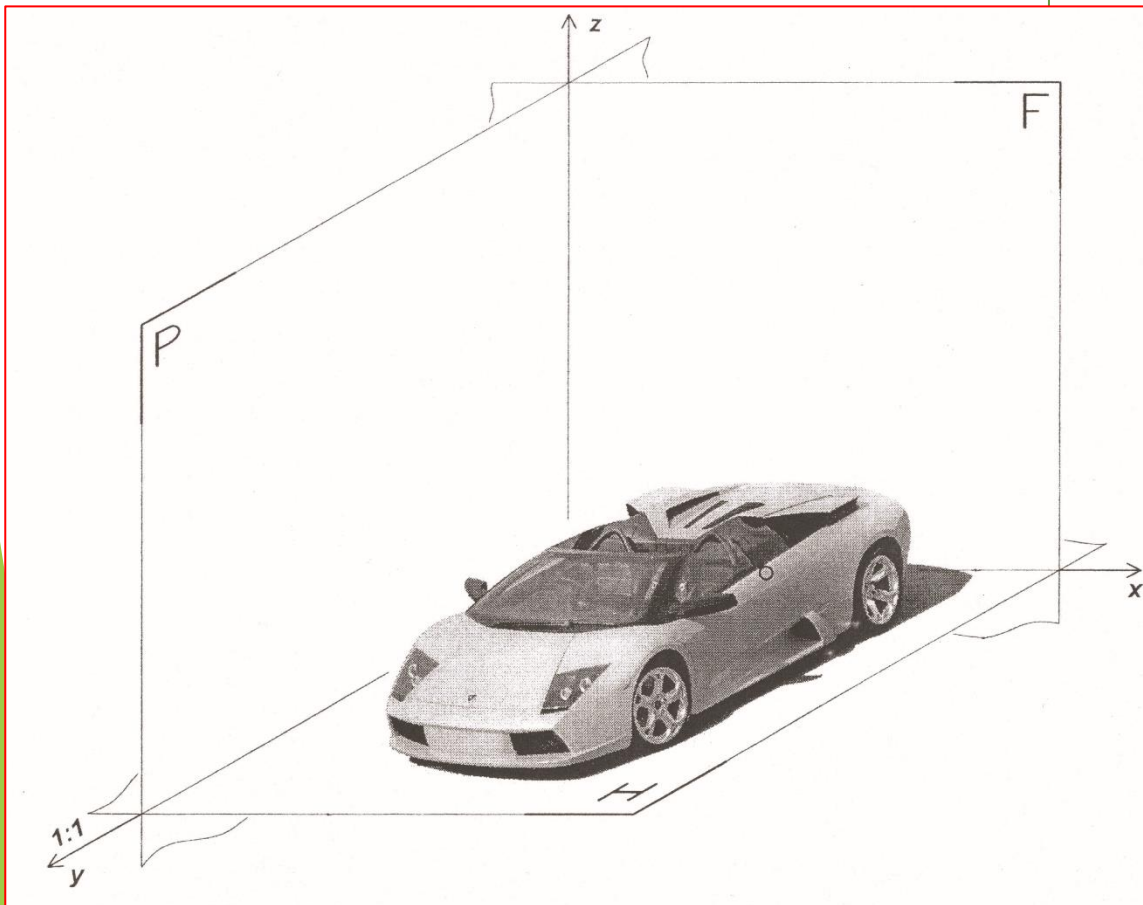
$$x = r \cdot \sin \theta \cdot \cos \varphi$$

$$y = r \cdot \sin \theta \cdot \sin \varphi$$

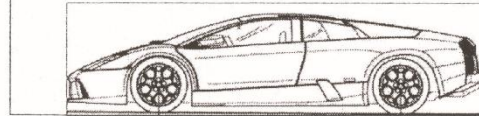
$$z = r \cdot \cos \theta$$

Ortogonalne projekcije

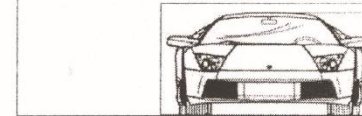
3D model



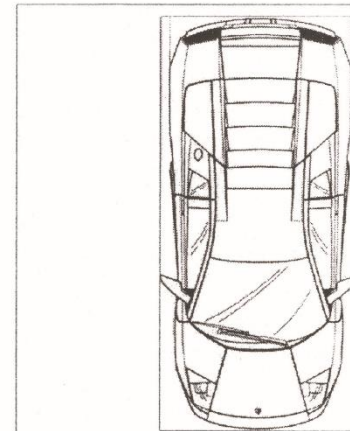
III O.P.



II O.P.



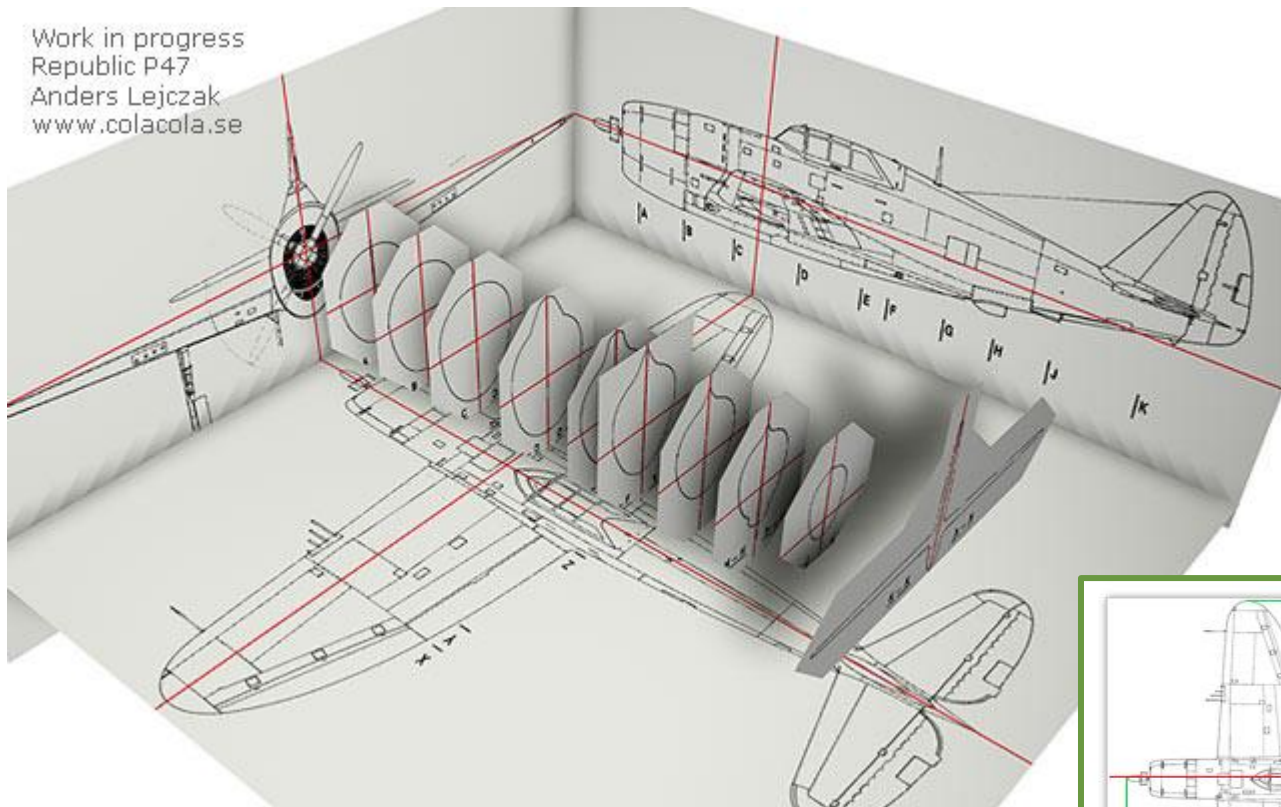
I O.P.



Inženjersko crtanje primenom računara

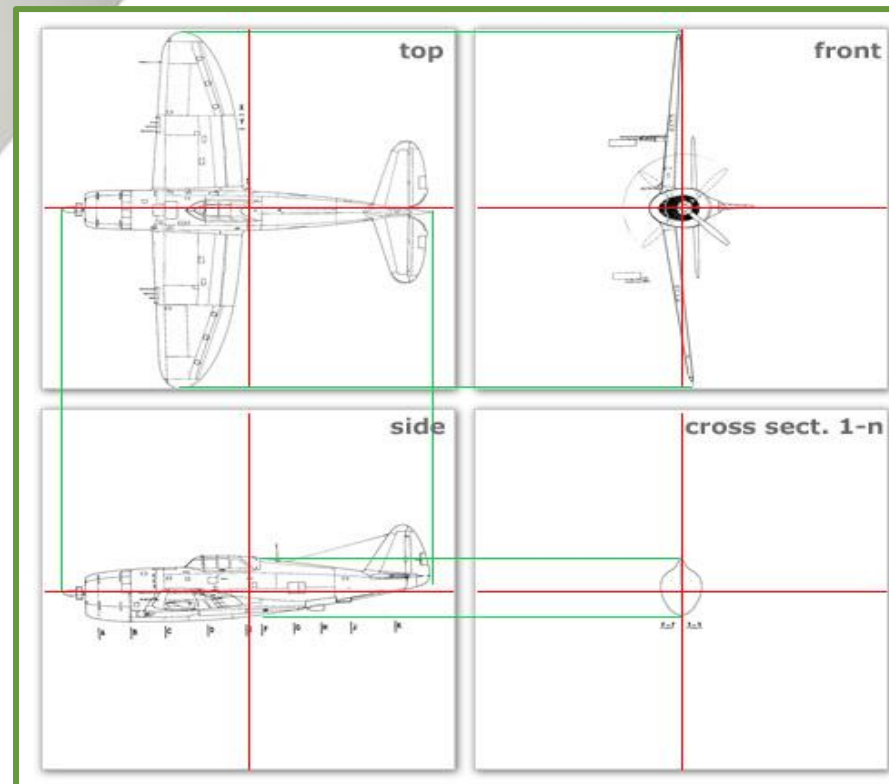


Work in progress
Republic P47
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3D modeling

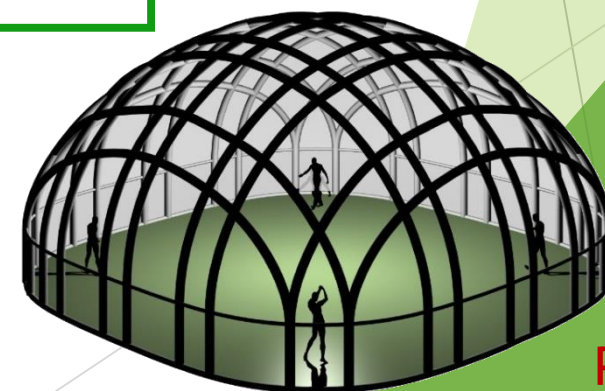
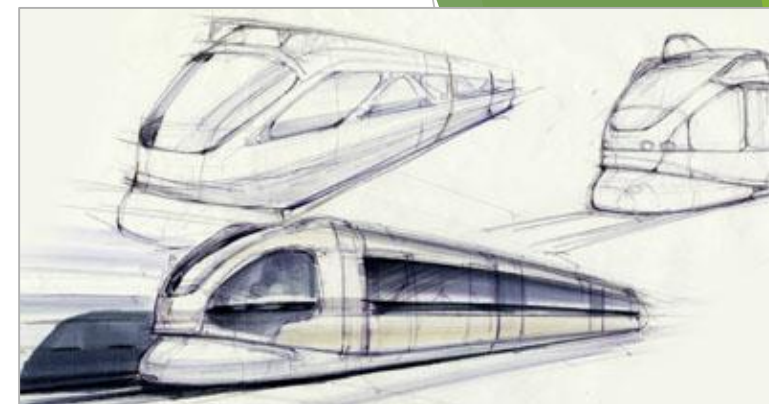
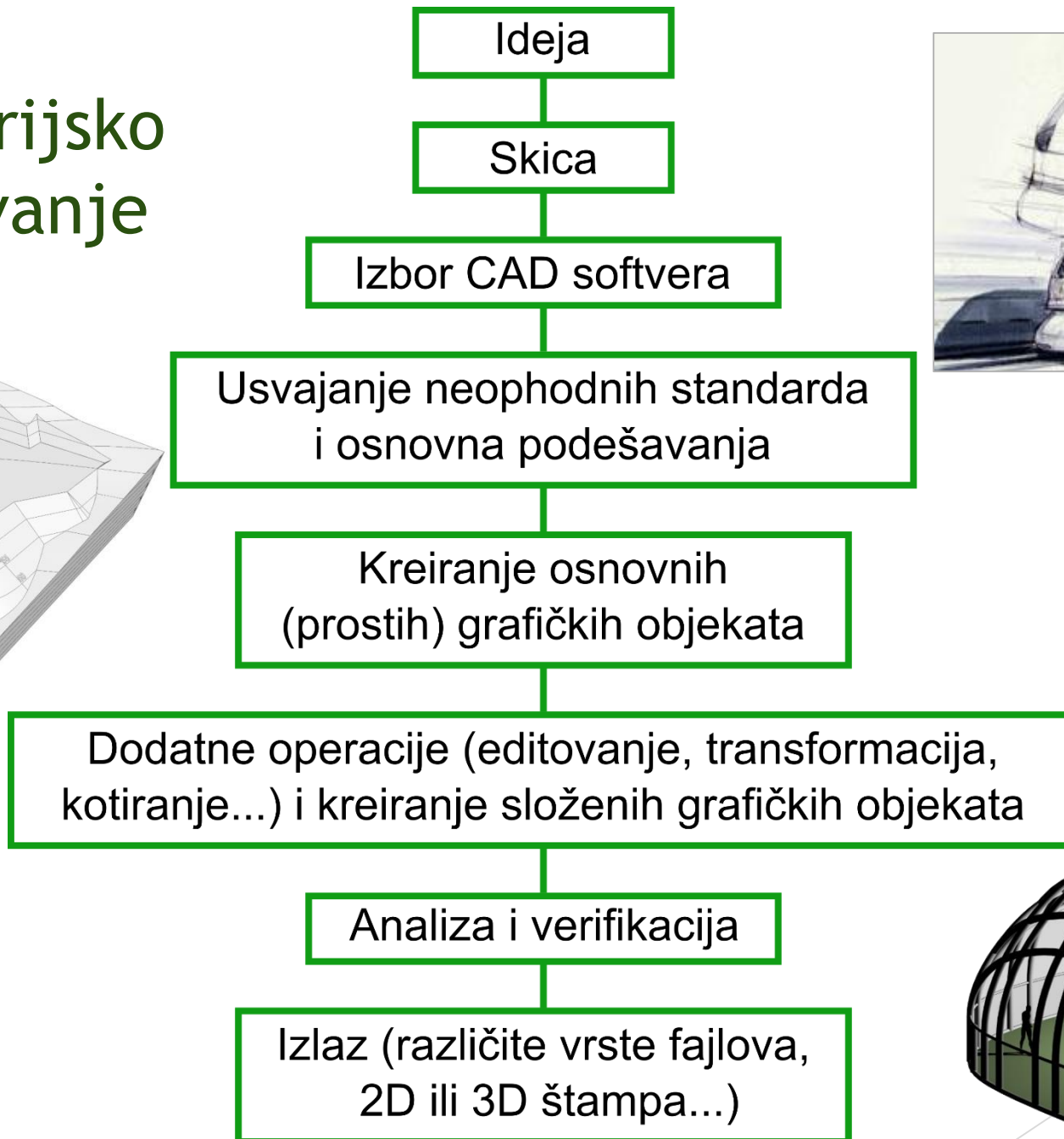
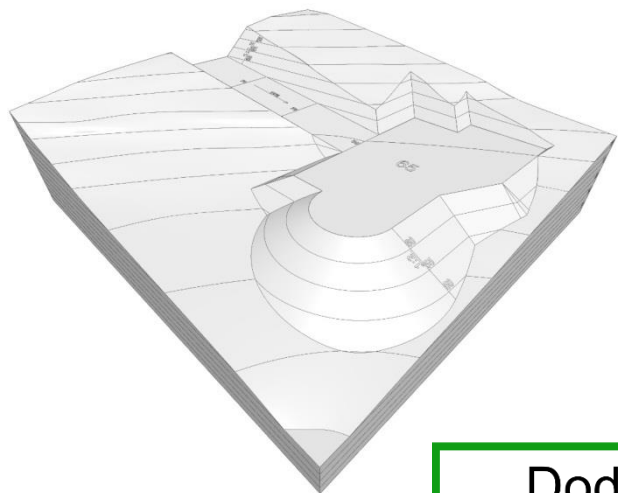
2D plan



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Geometrijsko modelovanje



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