

Príklady na cvičení č. 8

10. novembra 2022

1. Vyplňte mnohoúhelník $ABCDE$ použitím algoritmu scanline, ak

$$A = \begin{pmatrix} 1 \\ 3 \end{pmatrix}, \quad B = \begin{pmatrix} 2 \\ 0 \end{pmatrix}, \quad C = \begin{pmatrix} 7 \\ 2 \end{pmatrix}, \quad D = \begin{pmatrix} 4 \\ 2 \end{pmatrix}, \quad E = \begin{pmatrix} 5 \\ 5 \end{pmatrix}.$$

2. Nájdite prienik kužeľosečiek, zadaných rovnicami $f_1(x, y) = 0$ a $f_2(x, y) = 0$, ak

(a)

$$\begin{aligned} f_1(x, y) &= x^2 + y^2 - xy - 3, \\ f_2(x, y) &= 2x^2 + y^2 - 2xy - y - 4, \end{aligned}$$

(b)

$$\begin{aligned} f_1(x, y) &= x^2 - xy + 1, \\ f_2(x, y) &= x^2 - y^2 + x - 2y, \end{aligned}$$

(c)

$$\begin{aligned} f_1(x, y) &= y^2 - 5x + 5y, \\ f_2(x, y) &= x^2 + y^2 - 4x + 6y + 5, \end{aligned}$$

(d)

$$\begin{aligned} f_1(x, y) &= x^2 - y^2 + 2y - 1, \\ f_2(x, y) &= xy + 2x - 2y - 4. \end{aligned}$$