

Laborator 10

Problema: Fie cercul de centru $(4,3)$ si raza 15. Consideram punctele $A(19,-3)$ si $B(4,12)$ apartinand cercului. Sa se gaseasca coordonatele pixelilor care vor fi cuprinsi in urma rasterizarii arcului AB.

```
clear all
x0=4;
y0=-3;
raza=15;

x=0;
y=raza;
d=1-raza;
deltaE=3;
deltaSE=5-2*raza;
xc=x+x0;
yc=y+y0;
disp([xc yc])
xc=y+x0;
yc=x+y0;

disp([xc yc])
while (x<=y)
    if (d < 0) % alegem E
        d=d+deltaE;
        deltaE=deltaE+2;
        deltaSE=deltaSE+2;
        x=x+1;
    else % alegem SE */
        d=d+deltaSE;
        deltaE=deltaE+2;
        deltaSE=deltaSE+4;
        x=x+1;
        y=y-1;
    end
    xc=x+x0;
    yc=y+y0;
    disp([xc yc])
    xc=y+x0;
    yc=x+y0;
    disp([xc yc])

end
```

Varianta:

```
x0 = 4;
y0 = -3;
r = 15;
x = 0;
y = r;
d = 1 - r;
dE = 3;
dSE = 5 - 2*r;
plot (x + x0, y + y0, '*b');
hold on
plot (y + x0, x + y0, '*r');
while y > x
    if d < 0
        d = d + dE;
        dE = dE + 2;
        dSE = dSE + 2;
        x = x + 1;
    else
        d = d + dSE;
        dE = dE + 2;
        dSE = dSE + 4;
        x = x + 1;
        y = y - 1;
    end
    plot (x + x0, y + y0, '*b');
    hold on
    plot (y + x0, x + y0, '*r');
end
```

