

%PISP - Domaća zadaća 1
%Zlatan Radovanović

```
%zad1.m
A = [2:5;9:-2:3;2.^[2:5];3.^[3:-1:0]];

C = fliplr(diag(diag(fliplr(B))));

X = prod(diag(fliplr(D),1));

Y = E(1:2:end);Y=Y(find(mod(E(1:2:end),2) == 0));

Z = diag(rot90(E,-1).*rot90(E));
```

```
%vektORIZACIJA.m
n = input('Unesi broj-> ');
if n<=4 || mod(n,2) == 0
    error('Pogresan unos');
end

%a
A = (2*n+1).*ones(n);
B = round(5*rand(n-2)+4);
B = B - diag(diag(B)) + diag((n-3).*ones(1,n-2));
A(2:end-1,2:end-1) = B;

%b
x1 = sum(sum(A(2:end-1,2:end-1)));
x2 = length(find(mod(A,2) & A>n));
x3 = length(find(A([2 3],:) < A(ceil((n^2/2)))));
X = [x1 x2 x3];
```

```
%z3.m
```

```
function [A,B,C] = z3(x)
    n = length(x);

    if n<4
        error('Duzina vektora mora biti minimalno 4');
    end
    if nargin~=1
        error('Samo jedan ulazni arg')
    end
    if nargout ~=3
        error('Samo 3 izlazna arg')
    end

    A = zeros(n,3*n);
    A(1:n,1:n) = diag(x);
    A(:, [1 n n+1]) = [x' x' x'];
    A(end,n+1:2*n) = flip(x);
    A(end:-1:1,2*n) = x;
    A(end:-1:1,2*n+1:3*n) = diag(x);
    A([1 end],2*n+1:3*n) = [x; x];

    B = ones(2*n-1);
    for i = 1:n
        B(i: 2*n-i,i:2*n-i) = i;
    end

    C = diag(ones(1,n));
    for i = 1:n-1
        C = C + diag((i+1)*ones(1,n-i),i) + diag((i+1)*ones(1,n-i),-i);
    end
    C = fliplr(C);

end
```

```

%z4.m
function res = c(a,b)
    res = 3.*a + 5.*b;
end

function z4(a,b,fun)
    d = feval(fun,a,b);
    [A B] = meshgrid(a,b);
    D = feval(fun,A,B);

    figure(1)
    plot3(a,b,d,'k');
    grid on
    axis tight
    legend('y = 3*a+5*b');
    title('Grafik 1');
    xlabel('X-osa');
    ylabel('Y-osa');

    figure(2)
    subplot(1,2,1)
    surf(A,B,D);
    colormap hot;
    shading faceted;
    title('Grafik 2.1');
    xlabel('X-osa');
    ylabel('Y-osa');
    subplot(1,2,2)
    surf(A,B,D);
    colormap hot;
    shading interp;
    title('Grafik 2.2');
    xlabel('X-osa');
    ylabel('Y-osa');
end

```