

# DINÁMICA Y CONTROL DE PROCESOS

## Repartido 1

### 0.1.

```
a = 15;
v1=[3 5];
v2=[7;9;8];
A = [3 1 10;4 15 6];
B = [[7;4;5],[6;7;8]];

prod1 = v1 * A;
prod2 = prod1' + v2;
C = A * B;
C2 = A .* B';
```

### 0.3.

```
% Ejercicio 0.3

% Vectorial
x = 0:0.1:4;
f = exp(0.1*x)+x.^2;
g = log(x.^4-x.^2+1);

%% a
plot(x,[f;g])
title('Grafico ej3')
xlabel('x')
ylabel('f g')
legend('f','g')

%% b
clf;
plot(x,f,'bo:',x,g,'g*')
title('Grafico ej3');
xlabel('x');ylabel('f g');
legend('f','g')

%% c
figure(2);clf
x = [0 4]
fplot(@cf,x,'bo:')
title('Grafico ej3');
xlabel('x');ylabel('f')
```

### 0.2.

```
a = 4; b = 6; c = 2;
a = a+2; b = b+4;

function [a,b]=ej2(x,y,z)
    c = mean(x,z) % c = (x+z)/2
    a = c;
    b = y+z;
endfunction

[c,b]=ej2(a,b,c);
disp('c=');disp(c);
disp('b=');disp(b);
```

### 0.4.

```
%% a
M = [1 2;3 4; 1 5];
function y = ej4(M)
    y = 0;
    [nf,nc]=size(M);
    for i=1:nf
        for j=1:nc
            if M(i,j)==1
                y = y+1;
            end
        end
    end
endfunction

sol = ej4(M)

%% b
v = [1 2 4 68 3 16];
function y = ej4b(v)
    i = 1;
    ol = 1;
    while ol == 1 && i <= length(v)
        if v(i) == 3
            y = i;
            ol = 0;
        elseif i == length(v)
            y = -1; ol = 0;
        else
            i = i+1;
        end
    end
endfunction

sol2 = ej4b(v)
```