



Solución Examen - 11 de Febrero de 2006 - 2ª parte

Preguntas

1	2	3	4	5	6	7	8	9	10
c	b	a	b	b	b	c	a	d	a

Problema 1	25 pts (10,15)	
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```
function y = Mediana (v)
for n=1:length(v)-1
    for s=n+1:length(v)
        if v(n) > v(s)
            temp = v(n);
            v(n) = v(s);
            v(s) = temp;
        end
    end
end
y = v(floor(length(v)/2));
```

```
function M = suavizado(M,i,j)
[f,c] = size(M);
y = [];
for k=i-1:i+1
    for s=j-1:j+1
        if k >= 1 & k <= f
            if s >= 1 & s <= c
                y = [ y M(k,s)];
            end
        end
    end
end
M(i,j) = Mediana(y)
```

Problema 2	30 pts (10,20)	
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```
function y = polinomio (P, x)
l = length(P);
if l == 1
    y = P(1);
else
    y = ( P(1) * x^(l-1) ) + polinomio(P(2:l),x) ;
end
```

```
function [y,raiz] = Biseccion(v,a,b,e)

pa = polinomio(v,a);
pb = polinomio(v,b);

if pa * pb > 0
    y = 0;
    raiz = 0;
else
    xm = (a + b)/2;
    if abs(a - b) < e
        y = 1;
        raiz = xm;
    elseif (polinomio(v,xm)==0)
        y = 1;
        raiz = xm;
    elseif pa*polinomio(v,xm) < 0
        [y,raiz] = Biseccion(v, a, xm, e);
    else
        [y,raiz] = Biseccion(v, xm, b, e);
    end
end
```



<b>Problema 3</b>	15 ptos
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```
function y = Octa2Bin(v)
n = length(v);
for i=1:n
    if v(i)==1
        if i==1
            y = [1];
        else
            y = [y 0 0 1];
        end
    elseif v(i)==2
        if i==1
            y = [1 0];
        else
            y = [y 0 1 0];
        end
    elseif v(i)==3
        if i==1
            y = [1 1];
        else
            y = [y 0 1 1];
        end
    elseif v(i)==4
        y = [y 1 0 0];
    elseif v(i)==5
        y = [y 1 0 1];
    elseif v(i)==6
        y = [y 1 1 0];
    elseif v(i)==7
        y = [y 1 1 1];
    end
end
end
```