



Solución 2^{do} Parcial - Diciembre de 2006 - 2^a parte

Version 1

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

Version 2

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

Version 3

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

Problema 1	20 pts (10, 10)	
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Parte a

```
function y = biparti(n,v)
encontre = 0;
while length(v)>0 & ~encontre
    l=length(v);
    m=floor((l+1)/2);
    if v(m)==n
        encontre=1;
    elseif v(m)<n
        v = v(m+1:l);
    else
        v = v(1:m-1);
    end
end
y=encontre;
```

Parte b

```
function y = bipartr(n,v)
l=length(v);
if (l==0)
    y = 0;
else
    m=floor((l+1)/2);
    if( v(m) == n)
        y=1;
    elseif (v(m)<n)
        y = bipartr(n,v(m+1:l));
    else
        y = bipartr(n,v(1:m-1));
    end
end
```

Problema 2	10 pts	
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```
function y = SumaDivisores(n)
i = 1;
suma_divisores = 0;
while i <= floor(n/2)
    resto = rem(n,i);
    if resto == 0
        suma_divisores = suma_divisores + i;
    end
    i = i + 1;
end
y = suma_divisores;
```

```
function y = numerosAmigos(n, m)
suma_divisores_n = SumaDivisores(n);
suma_divisores_m = SumaDivisores(m);

y = (suma_divisores_n==m) | (suma_divisores_m==n);
```



Problema 3	20 pts (10,10)
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```
a)
function X = reverso(V)

if (length(V) == 0)
    X = [];
else
    a = V(1);
    B = V(2:length(V));
    X = [reverso(B), a];
end
```

```
b)
function X = rotar(M)

[n,m] = size(M);
if (n == 0)
    X = [];
else
    a = M(1,:);
    B = M(2:n, :);
    X = [rotar(B); reverso(a)];
end
```