Examen - 22 de diciembre de 2015

Problema 1	15 (4,2,3,3,3) ptos	

a) 001 000 001 000 001 → 104116

b) 00100 → 11011 → 11100

c) +1,0x2-1 → 0,5

d) 10001,12 → 1,00011 x 24 → 0 1000011 00011000000000000000000

e)
```
function y = pos(v, x)
    y= posR(v, x, 1);
```

Problema 2	21 (10,11) ptos		

a)
```
function y = listPos (v, x)
    n = length(v);
    y=[];
    for i =1:n
        if mod(v(i), x) == 0
        y = [y, i];
        end
    end
```

b)
```
function y = posMayor (v, x)
    n = length(v);
    s= 0;
    i=1;
    while (i<=n) && (s<= x)
        s = s + v(i);
        i = i+1;
    end
    if s > x
        y = i;
    else
        y = -1;
    end
```

Problema 3	26 (13, 13) ptos		

a)
```
function v = Ordenar (v)
    n = length(v);
    for i =1:n-1
       for j =i+1:n
        if v(j) < v(i)
            aux = v(i);
            v(i) = v(j);
            v(j) = aux;
           end
       end
    end
```

b)
```
function y = Unicos (v)
    n = length(v);
    if n < 2
        y = v;
    else
        if v(1) == v(2)
           y = Unicos(v(2:n));
        else
           y= [v(1) Unicos(v(2:n))];
        end
    end
```

Problema 4	38 (13, 16, 9) ptos		

a)
```
function y = coef (mf, mc, mv, fil, col)
    n = length(mf);
    i=1;
    while (i<=n) && ((mf(i)  ~= fil) || (mc(i) ~= col))
        i = i+1;
    end
    if i <= n
        y = mv(i);
    else
        y = 0;
    end
```

b)
```
function [y, mf, mc, mv,] = coefR (mf, mc, mv, fil, col)
n = length(mf);
if n == 0
    y = 0;
else
    if (mf(1) == fil) & (mc(1) == col)
        y = mv(1);
        mf = mf(2:n);
        mc = mc(2:n);
        mv = mv(2:n);
    else
        [y, mfr, mcr, mvr] = coefR (mf(2:n), mc(2:n), mv(2:n), fil, col);
        mf = [mf(1) mfr];
        mc = [mc(1) mcr];
        mv = [mv(1) mvr];
    end
end
```

c)
```
function y = esSim(mf, mc, mv)
    n = length(mf);
    if n == 0
        y = 1;
    else
        if mc(1) ~= mf(1)
                [d, mfr, mcr, mvr] = coefR (mf(2:n), mc(2:n), mv(2:n), mc(1), mf(1));
                if mv(1) ~= d
                        y = 0
                else
                        y = esSim(mfr, mcr, mvr);
                end
        else
                y = esSim(mfr(2:n), mcr(2:n), mvr(2:n));
        end
    end
```