2do Parcial Solución - Diciembre de 2004

Problema 1	15 ptos	

a)

i) 11101
ii) 00010
iii) 10010
iv) 10011

b)

i) 01010
ii) 10010

c) normalizado $1{,}01 \times 2^{-1}$ ½+1/8 =5/8
desnormalizado $0{,}01 \times 2^{-126}$

d) 31 → 11111 → $1{,}1111 \times 2^{4}$
0 00000011 11110000000

Problema 2	15 ptos	

a)

```
function y = DifSimetrica(a,b)
if isempty(a)
    y = b;
elseif isempty(b)
    y = a;
else
    if a(1) == b(1)
       y = [DifSimetrica(a(2:length(a)), b(2:length(b)))];
    elseif a(1) > b(1)
        y = [b(1) DifSimetrica(a, b(2:length(b)))];
    else
        y = [a(1) DifSimetrica(a(2:length(a)), b)];
    end
end
```

b)

```
function y = Union(a,b)
la = length(a);
lb = length(b);

i = 1;
j = 1;
y = [];

while (i <= la) & (j <= lb)
    if a(i) == b(j)
       y = [y a(i)];
       i = i + 1;
       j = j + 1;
    elseif a(i) < b(j)
       y = [y a(i)];
       i = i + 1;
    else
       y = [y b(j)];
       j = j + 1;
```

```
    end
 end

 if i <= la
    y = [y a(i:la)];
 elseif j <= lb
    y = [y b(j:lb)];
 end
```

Problema 3	15 ptos	

```
function [pos_ok, num_ok]=MasterMind(n,m)
vect_n = [];
while n >= 10
   resto = rem(n,10);
   vect_n = [vect_n resto];
   n = floor(n/10)
end
vect_n = [vect_n n];
vect_m = [];
while m >= 10
   resto = rem(m,10);
   vect_m = [vect_m resto];
   m = floor(m/10);
end
vect_m = [vect_m m];
pos_ok = 0;
num_ok = 0;
for i=1:length(vect_n)
   if vect_m(i) == vect_n(i)
      pos_ok = pos_ok + 1;
   else
      j = 1;
      while (j <= length(vect_n)) & (vect_n(i) ~= vect_m(j))
        j = j+1;
      end
     if j <= length(vect_n)
        num_ok = num_ok +1;
     end
  end
end
```

Problema 4	15 ptos	

```
function y = explotar(numero, bomba)
if bomba < numero
   n1 = floor(numero/bomba);
   n2 = numero - floor(numero/bomba);
   y = [explotar(n1, bomba) explotar(n2,bomba)];
else
   y = [numero];
end
```