# Solución Examen  -  22 de Julio de 2005  -  2ª parte

**Preguntas**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|----|
| C | B | B | C | B | A | C | A | D | A  |

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**Problema 1** | 20ptos  (10 y 10)

a)
```
function [n, val] =
Descomposicion(num);
val = num;
n = 0;
while mod(val, 2) = 0 do
    val = val div 2;
    n = n + 1;
end
```

b)
```
function y = Cuadrado(n)
if n == 1
    y = 1
else
    y = (2*n - 1 ) + Cuadrado(n-1);
end
```

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**Problema 2** | 25 ptos

```
function y=Promedio(n)
vect_n = [];
while n >= 10
   resto = rem(n,10);
   vect_n = [vect_n resto];
   n = floor(n/10);
end
vect_n = [vect_n n];
largo_n = length(vect_n);
y = 0;
for i=0:largo_n-1
   if rem(largo_n-i,2) == 0
       y = y - vect_n(largo_n-i);
   else
       y = y + vect_n(largo_n-i);
   end
end
```

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**Problema 3** | 25 ptos

```
function y = InversoSimpleRec(v)
n = length(v);
if n == 1
   y = v;
else
   s = InversoSimpleRec(v(2:n));
   if s(length(s))==v(1)
     y = s;
   else
     y = [s v(1)];
   end
end
```

```
function y = InversoSimpleIter(v)
n = length(v);
y = [];
if n == 1
   y = v;
else
   for i=1:n
      if isempty(y)
         y = v(i);
      else
         if y(1)~=v(i)
            y = [v(i) y ];
         end
      end
   end
end
```