```
prompt= ('introduce numero de iteraciones: ');
n= input(prompt);
prompt= ('introduce el valor inicial de x0: ');
a= input (prompt);
vectorIt= 1:1:n
vectorIt = 1 \times 100
      1
          2 3
                         4
                               5 6
                                            7
                                                 8
                                                         9
                                                              10
                                                                     11
                                                                           12
                                                                                  13 • • •
for i=1:1:n
     if i==1
          g(i) = cos(a)/3
     else
          g(i) = cos(g(i-1))/3
          if i==20
               if abs(g(i-1)-g(i))>0.01
                     break;
               end
          end
     end
end
g = -0.2179
g = 1 \times 2
   -0.2179
               0.3255
g = 1 \times 3
   -0.2179
               0.3255
                          0.3158
g = 1 \times 4
   -0.2179
               0.3255
                          0.3158
                                     0.3168
g = 1 \times 5
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
   -0.2179
g = 1 \times 6
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
   -0.2179
g = 1 \times 7
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
    -0.2179
g = 1 \times 8
    -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168
g = 1 \times 9
    -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
g = 1 \times 10
                                                                                0.3168 ...
   -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
g = 1 \times 11
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
    -0.2179
g = 1 \times 12
                                                                                0.3168 ...
    -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
g = 1 \times 13
                                     0.3168
                                                                                0.3168 ...
   -0.2179
               0.3255
                          0.3158
                                               0.3167
                                                          0.3168
                                                                     0.3168
g = 1 \times 14
   -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
g = 1 \times 15
    -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
g = 1 \times 16
    -0.2179
                                                                                0.3168 ...
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
g = 1 \times 17
   -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
g = 1 \times 18
   -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
g = 1 \times 19
   -0.2179
               0.3255
                          0.3158
                                     0.3168
                                               0.3167
                                                          0.3168
                                                                     0.3168
                                                                                0.3168 ...
```

$g = 1 \times 20$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 21$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 22$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 23$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 24$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 25$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 26$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 27$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 28$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 29$							
-0.2179 g = 1×30	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g = 1×31	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
-0.2179 g = 1×32	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g = 1×33	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g = 1×34	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g = 1×35	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g = 1×36	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
-0.2179 g = 1×37	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 38$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 39$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 40$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 41$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 42$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 43$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 44$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 45$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
$g = 1 \times 46$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 47$ -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
$g = 1 \times 48$						0.3168	0.3168
-0.2179 g = 1×49	0.3255	0.3158	0.3168	0.3167	0.3168		
-0.2179 g = 1×50	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
-0.2179 g = 1×51	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
-0.2179 g =	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168

-0.2179 g =	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179 g =	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
-0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168 · · ·
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
g = -0.2179	0.3255	0.3158	0.3168	0.3167	0.3168	0.3168	0.3168
					_		

```
-0.2179
              0.3255
                        0.3158
                                  0.3168
                                            0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
g =
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
g =
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
   -0.2179
                                                                           0.3168 ...
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
g =
                                                                           0.3168 ...
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                            0.3167
                                                       0.3168
                                                                 0.3168
g =
   -0.2179
              0.3255
                        0.3158
                                  0.3168
                                             0.3167
                                                       0.3168
                                                                 0.3168
                                                                           0.3168 ...
if size(g)==size(vectorIt)
     disp('el algoritmo termino satisfactoriamente');
else
     disp('el algoritmo no converge');
end
```

el algoritmo termino satisfactoriamente

-0.2179

-0.2179

g =

0.3255

0.3255

0.3158

0.3158

0.3168

0.3168

0.3167

0.3167

0.3168

0.3168

0.3168

0.3168

0.3168 ...

0.3168 ...