

```
>> [phi_approx, phi_exacta,x,y,tiempo1] = Poisson2D2(60,60,@phi,@f);  
>> tiempo1
```

```
tiempo1 =
```

```
7
```

```
>> [phi_approx, phi_exacta,x,y,tiempo2] = Poisson2D(60,60,@phi,@f);  
>> tiempo2
```

```
tiempo2 =
```

```
1.3438
```

```
>> [phi_approx, phi_exacta,x,y,tiempo1] = Poisson2D2(160,160,@phi,@f);  
>> tiempo1
```

```
tiempo1 =
```

```
323.6875
```

```
>> [phi_approx, phi_exacta,x,y,tiempo2] = Poisson2D(160,160,@phi,@f);  
>> tiempo2
```

```
tiempo2 =
```

```
438.3438
```

```
>> [phi_approx, phi_exacta,x,y,tiempo3] = Poisson2D(160,160,@phi,@f);  
Out of memory.
```

```
Error in Gauss_Siedel (line 25)  
e= max(eig(-inv(D+L)*(U)));
```

```
Error in Poisson2D (line 112)  
u = Gauss_Siedel(A,rhs,x0,0.000001); %% Implementación descargada de  
internet(https://www.mathworks.com/matlabcentral/fileexchange/73488-gauss-!\[\]\(3342c215b2a8b663596a81468d5dc314\_img.jpg\)  
seidel-iterative-method)
```

Related documentation

```
>> [phi_approx, phi_exacta,x,y,tiempo3] = Poisson2D(60,60,@phi,@f);  
36 err = x(:,k+1) - x(:, k);% finding error  
>> [phi_approx, phi_exacta,x,y,tiempo4] = Poisson2D2(160,160,@phi,@f);  
>> tiempo4
```

```
tiempo4 =
```

```
277.2031
```

```
>>
```