```
>> [phi_aprox,phi_exacta,x,y] = Poisson2D(200,200,@phi,@f);
Error using zeros
Requested 39204x39204 (11.5GB) array exceeds maximum array size preference. Creation
of arrays greater than this limit may take a long
time and cause MATLAB to become unresponsive.

Error in Poisson2D (line 30)
A = zeros((m-2)*(n-2),(m-2)*(n-2));% Se inicializa A con ceros.

Related documentation

>> [phi_aprox,phi_exacta,x,y] = Poisson2D(150,150,@phi,@f);
>> [phi_aprox,phi_exacta,x,y] = Poisson2D(180,180,@phi,@f);
>> tiempo
Unrecognized function or variable 'tiempo'.

>> [phi_aprox,phi_exacta,x,y,tiempo] = Poisson2D(190,190,@phi,@f);
Error using zeros
Requested 35344x35344 (9.3GB) array exceeds maximum array size preference. Creation of
arrays greater than this limit may take a long
time and cause MATLAB to become unresponsive.

Error in Poisson2D (line 30)
A = zeros((m-2)*(n-2),(m-2)*(n-2));% Se inicializa A con ceros.

Related documentation

>> [phi_aprox,phi_exacta,x,y,tiempo] = Poisson2D(185,185,@phi,@f);
Error using zeros
Requested 33489x33489 (8.4GB) array exceeds maximum array size preference. Creation of
arrays greater than this limit may take a long
time and cause MATLAB to become unresponsive.

Error in Poisson2D (line 30)
A = zeros((m-2)*(n-2),(m-2)*(n-2));% Se inicializa A con ceros.

Related documentation

>> clear all
>> [t,tx] = MedTiempo(18);
>> [t,tx] = MedTiempo(18);
Out of memory.

Error in Poisson2D (line 83)
[L,U,P] = lu(A);                % Factorizamos la matriz en una triangular inferior
y una superior

Error in MedTiempo (line 7)
    [phi_approx,phi_exacta,x,y,tiempo] = Poisson2D(m,m,@phi,@f);

Related documentation

>> clear all
>> [t,tx] = MedTiempo(18);
Out of memory.
```

```
Error in Poisson2D (line 83)
[L,U,P] = lu(A);                    % Factorizamos la matriz en una triangular inferior↙
y una superior

Error in MedTiempo (line 7)
    [phi_approx,phi_exacta,x,y,tiempo] = Poisson2D(m,m,@phi,@f);

Related documentation

>> clear all
>> [t,tx] = MedTiempo(18);
>> clear all
>> [phi_aprox,phi_exacta,x,y,tiempo] = Poisson2D(10,10,@phi,@f);
metodo de Gauss- Seidel:

 i           x 1           x 2           x 3           x 4           x 5           x 6↙
x 7           x 8      ER
  1       1.140110       0.855658       0.844541       0.907049       0.993441↙
1.091379       1.197749       3.008937   4.029e+00
  2       1.354024       1.120272       1.137457       1.228639       1.346683↙
1.479127       2.046921       3.221230   1.160e+00
  3       1.420178       1.210040       1.240296       1.342659       1.472125↙
1.722780       2.160907       3.249727   3.534e-01
  4       1.442619       1.241360       1.276631       1.383103       1.543150↙
1.769033       2.179595       3.254398   1.095e-01
  5       1.450449       1.252401       1.289502       1.404077       1.559957↙
1.777906       2.182981       3.255245   3.409e-02
  6       1.453210       1.256309       1.295723       1.409834       1.563614↙
1.779667       2.183633       3.255408   1.057e-02
  7       1.454187       1.258108       1.297612       1.411221       1.564401↙
1.780027       2.183763       3.255441   3.233e-03
  8       1.454637       1.258693       1.298105       1.411541       1.564571↙
1.780102       2.183790       3.255447   9.617e-04
  9       1.454783       1.258853       1.298225       1.411613       1.564608↙
1.780118       2.183796       3.255449   2.611e-04
Error using reshape
Number of elements must not change. Use [] as one of the size inputs to automatically↙
calculate the appropriate size for that dimension.

Error in Poisson2D (line 100)
utemp = reshape(u,n-2,m-2);         % Cambiamos de vector a matriz

>> [phi_aprox,phi_exacta,x,y,tiempo] = Poisson2D(10,10,@phi,@f);
metodo de Gauss- Seidel:

 i           x 1           x 2           x 3           x 4           x 5           x 6↙
x 7      ER
  1       1.140110       0.855658       0.844541       0.907049       0.993441↙
1.091379       1.197749   2.680e+00
  2       1.354024       1.120272       1.137457       1.228639       1.346683↙
1.479127       1.294686   7.678e-01
  3       1.420178       1.210040       1.240296       1.342659       1.472125↙
1.534721       1.308585   2.346e-01
  4       1.442619       1.241360       1.276631       1.383103       1.496135↙
```

```
1.544198       1.310954   7.150e-02
  5       1.450449       1.252401       1.289502       1.392324       1.500810↙
1.545959       1.311395   2.143e-02
  6       1.453210       1.256309       1.292784       1.394313       1.501747↙
1.546304       1.311481   6.215e-03
  7       1.454187       1.257374       1.293548       1.394738       1.501940↙
1.546373       1.311498   1.701e-03
  8       1.454453       1.257631       1.293719       1.394829       1.501980↙
1.546388       1.311502   4.199e-04
Error using reshape
Number of elements must not change. Use [] as one of the size inputs to automatically↙
calculate the appropriate size for that dimension.

Error in Poisson2D (line 100)
utemp = reshape(u,n-2,m-2);        % Cambiamos de vector a matriz

>> [phi_aprox,phi_exacta,x,y,tiempo] = Poisson2D(10,10,@phi,@f);
metodo de Gauss- Seidel:

 i           x 1           x 2           x 3           x 4           x 5           x 6↙
x 7           x 8      ER
  1       1.140110       0.855658       0.844541       0.907049       0.993441↙
1.091379       1.197749       3.008937   4.029e+00
  2       1.354024       1.120272       1.137457       1.228639       1.346683↙
1.479127       2.046921       3.221230   1.160e+00
  3       1.420178       1.210040       1.240296       1.342659       1.472125↙
1.722780       2.160907       3.249727   3.534e-01
  4       1.442619       1.241360       1.276631       1.383103       1.543150↙
1.769033       2.179595       3.254398   1.095e-01
  5       1.450449       1.252401       1.289502       1.404077       1.559957↙
1.777906       2.182981       3.255245   3.409e-02
  6       1.453210       1.256309       1.295723       1.409834       1.563614↙
1.779667       2.183633       3.255408   1.057e-02
  7       1.454187       1.258108       1.297612       1.411221       1.564401↙
1.780027       2.183763       3.255441   3.233e-03
  8       1.454637       1.258693       1.298105       1.411541       1.564571↙
1.780102       2.183790       3.255447   9.617e-04
  9       1.454783       1.258853       1.298225       1.411613       1.564608↙
1.780118       2.183796       3.255449   2.611e-04
Error using reshape
Number of elements must not change. Use [] as one of the size inputs to automatically↙
calculate the appropriate size for that dimension.

Error in Poisson2D (line 100)
utemp = reshape(u,n-2,m-2);        % Cambiamos de vector a matriz

>>
```