

```
[x, y] = meshgrid(-5:5, -5:5)
```

```
x = 11x11
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
-5    -4    -3    -2    -1     0     1     2     3     4     5
⋮
y = 11x11
-5    -5    -5    -5    -5    -5    -5    -5    -5    -5    -5
-4    -4    -4    -4    -4    -4    -4    -4    -4    -4    -4
-3    -3    -3    -3    -3    -3    -3    -3    -3    -3    -3
-2    -2    -2    -2    -2    -2    -2    -2    -2    -2    -2
-1    -1    -1    -1    -1    -1    -1    -1    -1    -1    -1
 0     0     0     0     0     0     0     0     0     0     0
 1     1     1     1     1     1     1     1     1     1     1
 2     2     2     2     2     2     2     2     2     2     2
 3     3     3     3     3     3     3     3     3     3     3
 4     4     4     4     4     4     4     4     4     4     4
⋮
```

```
z = x.^2+y.^2
```

```
z = 11x11
50    41    34    29    26    25    26    29    34    41    50
41    32    25    20    17    16    17    20    25    32    41
34    25    18    13    10     9    10    13    18    25    34
29    20    13     8     5     4     5     8    13    20    29
26    17    10     5     2     1     2     5    10    17    26
25    16     9     4     1     0     1     4     9    16    25
26    17    10     5     2     1     2     5    10    17    26
29    20    13     8     5     4     5     8    13    20    29
34    25    18    13    10     9    10    13    18    25    34
41    32    25    20    17    16    17    20    25    32    41
⋮
```

```
x = -5:5
```

```
x = 1x11
-5    -4    -3    -2    -1     0     1     2     3     4     5
```

```
y = -5:5
```

```
y = 1x11
-5    -4    -3    -2    -1     0     1     2     3     4     5
```

```
Lsum = 0;
syms t u
```

```

for i = 1:n
    for j = 1:n
        Lprod = 1;
        for s = 1:n
            if s ~= i
                Lprod = Lprod * ( (u - x(s)) / (x(i) - x(s)) );
            end
        end
        for s = 1:n
            if s ~= j
                Lprod = Lprod * ( (t - y(s)) / (y(j) - y(s)) );
            end
        end
        Lsum = Lsum + z(i, j) * Lprod;
    end
end
disp(simplify(Lsum))

```

$$t^2 + u^2$$