

```
x = -6:0.01:6
```

```
x = 1x1201  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300 ...
```

```
y = -6:0.01:6
```

```
y = 1x1201  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300 ...
```

```
% plot(x, 5 * ones(size(x)))  
plot(x, 5*ones(size(x)), "LineWidth", 3); hold on;  
  
plot(5 * ones(size(y)), y, "LineWidth", 3);  
  
plot(x, y, "LineWidth", 1)  
  
[x y] = meshgrid(x, y)
```

```
x = 1201x1201  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300 ...  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
-6.0000 -5.9900 -5.9800 -5.9700 -5.9600 -5.9500 -5.9400 -5.9300  
⋮  
y = 1201x1201  
-6.0000 -6.0000 -6.0000 -6.0000 -6.0000 -6.0000 -6.0000 -6.0000 ...  
-5.9900 -5.9900 -5.9900 -5.9900 -5.9900 -5.9900 -5.9900 -5.9900  
-5.9800 -5.9800 -5.9800 -5.9800 -5.9800 -5.9800 -5.9800 -5.9800  
-5.9700 -5.9700 -5.9700 -5.9700 -5.9700 -5.9700 -5.9700 -5.9700  
-5.9600 -5.9600 -5.9600 -5.9600 -5.9600 -5.9600 -5.9600 -5.9600  
-5.9500 -5.9500 -5.9500 -5.9500 -5.9500 -5.9500 -5.9500 -5.9500  
-5.9400 -5.9400 -5.9400 -5.9400 -5.9400 -5.9400 -5.9400 -5.9400  
-5.9300 -5.9300 -5.9300 -5.9300 -5.9300 -5.9300 -5.9300 -5.9300  
-5.9200 -5.9200 -5.9200 -5.9200 -5.9200 -5.9200 -5.9200 -5.9200  
-5.9100 -5.9100 -5.9100 -5.9100 -5.9100 -5.9100 -5.9100 -5.9100  
⋮
```

```
f = -5 * sin(x + y) + (x - y).^2 - x - 2 * y
```

```
f = 1201x1201  
15.3171 15.2652 15.2137 15.1627 15.1122 15.0621 15.0126 14.9635 ...  
15.2552 15.2033 15.1519 15.1010 15.0505 15.0006 14.9511 14.9021  
15.1937 15.1419 15.0906 15.0397 14.9894 14.9395 14.8901 14.8413  
15.1327 15.0810 15.0297 14.9790 14.9287 14.8789 14.8297 14.7809  
15.0722 15.0205 14.9694 14.9187 14.8685 14.8189 14.7697 14.7211  
15.0121 14.9606 14.9095 14.8589 14.8089 14.7593 14.7103 14.6617  
14.9526 14.9011 14.8501 14.7997 14.7497 14.7003 14.6513 14.6029  
14.8935 14.8421 14.7913 14.7409 14.6911 14.6417 14.5929 14.5446  
14.8349 14.7837 14.7329 14.6827 14.6329 14.5837 14.5350 14.4868  
14.7769 14.7257 14.6751 14.6249 14.5753 14.5262 14.4776 14.4296
```

⋮

```
[C,h] = contour(x,y,f, 35, "b-");
clabel(C, h)

% local max
scatter([-6 5 ], [5 -6 ], "*", "LineWidth", 7);

% local min
scatter([4 0.872 -2.31 -5.51], [4.2 0.977 -2 -5.18], "+", "LineWidth", 7);

xlim([-6 6])
ylim([-6 6])
grid on
pbaspect([1 1 1]);
hold off;
```

