

Tai Duc Nguyen - Problem set 1

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Problem 1

```
% When given a 2-dimensional pdf, the graph of the pdf is 3-dimensional.  
% Hence, when provided point [0, 1], which is exactly at the mean, hence z  
% will be the highest value of the graph (z direction), a.k.a the most  
% likely probability. Therefore, max(p) is 1.5586
```

Problem 2

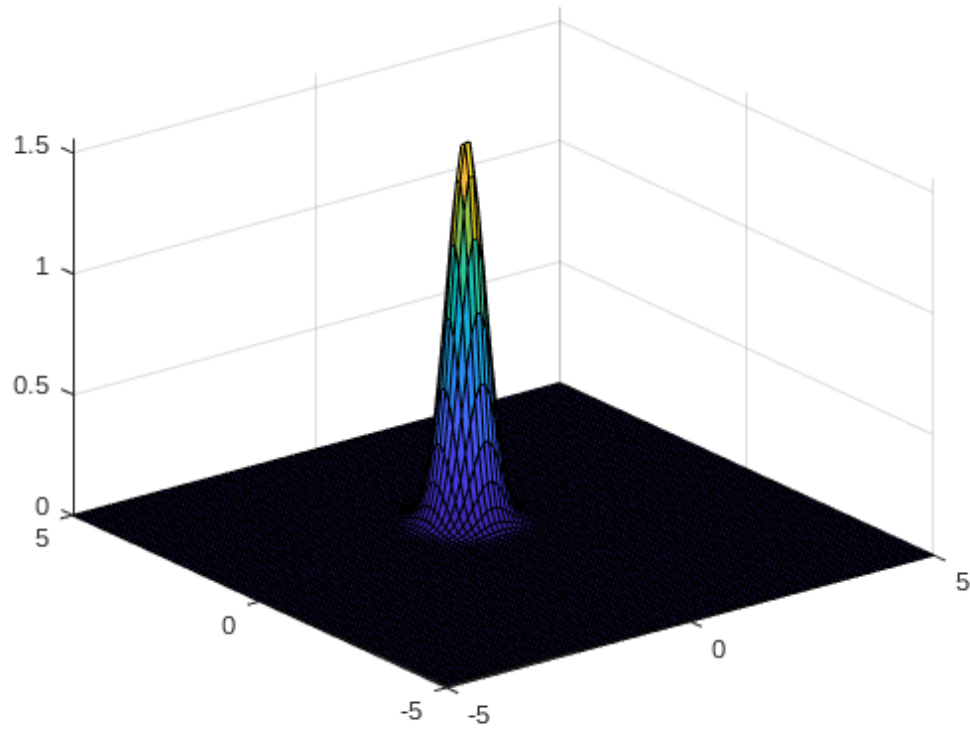
```
mu = [0,1]  
sigma = [0.1 0; 0 0.1]  
  
[X1,X2] = meshgrid(linspace(-5,5,100)',linspace(-5,5,100)');  
X = [X1(:) X2(:)];  
p = mvnpdf(X, mu, sigma);  
surf(X1,X2,reshape(p,100,100));
```

mu =

0 1

sigma =

0.1000 0
0 0.1000



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