Experiment 8

>> **MATLAB Code**

```
syms x y;
[x,y] = meshgrid(-2:0.1:2,-2:0.1:2);
f = x.*y.*exp(-2*(x.^2 + y.^2));
xlabel('X-Axis');
ylabel('Y-Axis');
grid;
figure(1);
mesh(x,y,f)
figure(2);
xlabel('X-Axis');
ylabel('Y-Axis');
grid;
contour(x,y,f)
hold on

maxima = max(max(f))
lmaxima = find(f == max(max(f)));
pos1 = [x(lmaxima) y(lmaxima)];
plot(x(lmaxima),y(lmaxima),'*')
text(x(lmaxima),y(lmaxima),'Maxima')

minima = min(min(f))
lminima = find(f == min(min(f)));
pos2 = [x(lminima) y(lminima)];
plot(x(lminima),y(lminima),'*')
text(x(lminima),y(lminima),'Minima')
hold off
```

>> **Command Window**

```
 Experiment_8

 maxima =

     0.0920

 minima =

    -0.0920
```

>> **Graph**