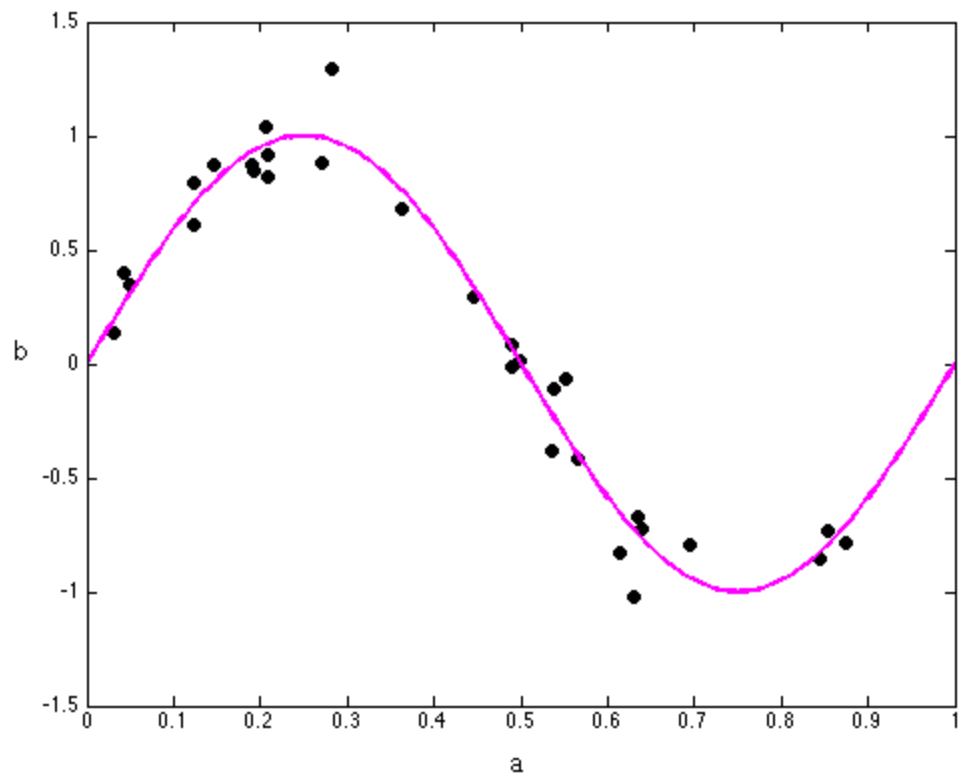```matlab
% Make points from sinusoidal w/noise
num_pts = 30;   % number of points to plot
a = rand(num_pts,1);
b = sin(2*pi*a) + 1/8*randn(num_pts,1);

% plot points
plot(a,b,'o','MarkerEdgeColor','k','MarkerFaceColor','k')
hold on

% plot underlying sinusoidal model
s = [0:0.005:1];   % range over which to plot
plot(s,sin(2*pi*s),'-m','LineWidth',2)
axis ([0 1 -1.5 1.5])   % adjusts viewing window

% make labels for graph
xlabel('a','Fontsize',14,'FontName','cmr10')
ylabel('b ','Fontsize',14,'FontName','cmr10')
set(get(gca,'YLabel'),'Rotation',0)
set(gcf,'color','w');   % makes background white
```



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