```
data = [120 125 125 135 145 ; 61 60 64 68 72];
mean_vec = mean(data,2);
n = size(data,1)
B = data - mean_vec
S = (1/(n-1)) * B * transpose(B)
[U,L] = eig(S);
"Eigenvalues:"
12 = L(1,1)
11 = L(2,2)
"Eigenvectors:"
variance = 11/(11+12)
scatter(data(1,:),data(2,:))
n =
     2
B =
          -5 -5 5 15
-5 -1 3 7
   -10
    -4
S =
```

400

190

ans =

12 =

11 =

ans =

7.9256

492.0744

190

100

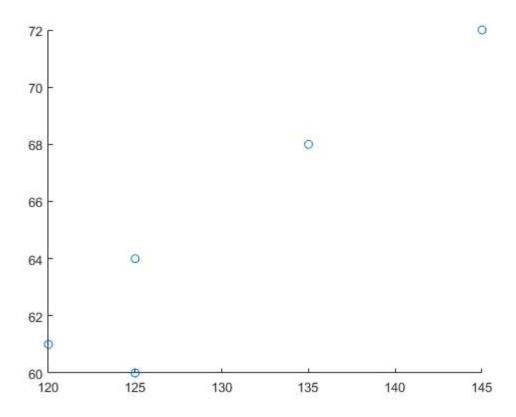
"Eigenvalues:"

"Eigenvectors:"

0.4361 -0.8999 -0.8999 -0.4361

variance =

0.9841



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