

---

```
function [x, P] = linearPrediction(x, P, A, Q)
%LINEARPREDICTION calculates mean and covariance of predicted state
% density using a linear Gaussian model.
%
%Input:
% x [n x 1] Prior mean
% P [n x n] Prior covariance
% A [n x n] State transition matrix
% Q [n x n] Process noise covariance
%
%Output:
% x [n x 1] predicted state mean
% P [n x n] predicted state covariance
%
% Your code here
x=A*x;
P=A*P*A'+Q;
end
```

*Published with MATLAB® R2020a*