```
function main
    clc
    A = [3 -3 3; -3 5 1; 3 1 5];
    b = [9 -7 12]';

    [x, d] = gauss(A,b);

    display(x);
    display(d);
end

function [x,det] = gauss(A,b)
    if size(b,2) > 1
        b = b';
    end

    n = length(b);
    for k = 1:n-1
        for i = k+1:n
            l = A(i,k)/A(k,k);
            A(i,k:n) = A(i,k:n) - l*A(k,k:n);
            b(i) = b(i) - l*b(k);
        end
    end

    if nargout == 2
        det = prod(diag(A));
    end

    b(n) = b(n)/A(n,n);

    for k = n-1:-1:1
        b(k) = ((b(k) - A(k,k+1:n)*b(k+1:n))/A(k,k));
    end
    x = b;
end
```

```
x =

    3.5000
    0.6667
    0.1667


d =

   -36
```

*Published with MATLAB® R2017b*