This function takes three inputs

x - a set of parameters t - the number of time-steps you wish to simulate

```
function f = siroutput_full(x,t)

% Here is a suggested framework for x.  However, you are free to
 deviate
% from this if you wish.

% set up transmission constants
k_infections = x(1);
k_fatality = x(2);
k_recover = x(3);

% set up initial conditions
ic_susc = x(4);
ic_inf = x(5);
ic_rec = x(6);
ic_fatality = x(7);

% Set up SIRD within-population transmission matrix
%A = [1-k_infections k_infections-k_fatality 0 0; k_infections 1-
k_infections-k_recover 0 0; 0 k_recover 1 0; 0 k_fatality 0 1];

A = [1-k_infections 0 0 0; k_infections 1-(k_infections+k_fatality) 0
 0; 0 k_recover 1 0; 0 k_fatality 0 1];


% The next line creates a zero vector that will be used a few steps.
B = zeros(4,1);

% Set up the vector of initial conditions
x0 = [ic_susc, ic_inf, ic_rec, ic_fatality];

% Here is a compact way to simulate a linear dynamical system.
% Type 'help ss' and 'help lsim' to learn about how these functions
 work!!
sys_sir_base = ss(A,B,eye(4),zeros(4,1),1)
y = lsim(sys_sir_base,zeros(t,1),linspace(0,t-1,t),x0);

% return the output of the simulation
f = y;



end
```

```
Not enough input arguments.

Error in siroutput_full (line 11)
k_infections = x(1);
```

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