Matlab programs

```
% Figs2_3and2_4.m plots baseline case figures 2.3 and 2.4
% This program was last updated Jan 25, 2017
% parameters ag alph gam tim
clear

%*****************************************
% Calibrated Parameters
%*****************************************

parameter_names = ['gamma',' ', 'Ag',' ', 'alpha',' ', 'time' ];
gam = 1/3 ;     % labor's share of output
ag = 1;        % Technology Factor, also called productivity factor
alph = 0.5;     % Weight on leisure in log utility
tim = 1;     % Time available for work and leisure
parameter_values = [gam ag alph tim];
%*****************************************
% Equilbrium Values (steady_state)
%*****************************************
var_names = ['l',' ', 'u',' ','c',' ','x'];
l = gam/(alph+gam) ;
c = ag*(l^gam) ;
x = tim - l ;
u = log(c) + alph*log(x);
% output
%*****************************

var_names
steady_state = [l u c  x]

% %********** Figure 2.3 *****************
%  syms c x
% % ff(c) =  ag_B*(l_B^gam); % consumption_B
% f(c) = ag*((tim-x)^gam);   % consumption
% % gg(c) = exp(u_B)/((tim-l)^alph); % utility_B
%  g(c) = exp(u)/((x)^alph) ;  % utility
% LIMS = [0.0 1.0 0.0 1.5];
% ezplot(f,LIMS)
% hold
% ezplot(g,LIMS)


%********** Figure 2.4 *****************
syms c l
f(c) = ag*(l^gam);   % consumption
g(c) = exp(u)/((tim-l)^alph) ;  % tility
LIMS = [0.0 1.0 0.0 1.5];
ezplot(f,LIMS)
```

```
hold
ezplot(g,LIMS)

% Figs2_5.m plots baseline case figure 2.5
% This program was last updated Jan 29, 2017
% parameters ag alph gam tim ag_B
clear

%****************************************
% Calibrated Parameters
%****************************************

parameter_names = ['gamma',' ', 'Ag',' ', 'alpha',' ', 'time' ];
gam = 1/3 ;      % labor's share of output
ag = 1;        % Technology Factor, also called productivity factor
ag_B=2;
alph = 0.5;      % Weight on leisure in log utility
tim = 1;      % Time available for work and leisure
parameter_values = [gam ag alph tim];
%****************************************
% Equilbrium Values (steady_state)
%****************************************
var_names = ['l',' ', 'u',' ','c',' ','x'];
l = tim*gam/(alph+gam) ;
c = ag*(l^gam) ;
x = tim - l ;
u = log(c) + alph*log(x);

%case B with ag_B=2
var_names = ['l_B',' ', 'u_B',' ','c_B',' ','x_B'];
l_B = gam/(alph+gam) ;
c_B = ag_B*(l^gam) ;
x_B = tim - l ;
u_B = log(c_B) + alph*log(x_B);

% output
%****************************

var_names
steady_state = [l u c  x]
steady_state_B = [l_B u_B c_B x_B]
% %********** Figure 2.5 *****************
 syms c x c_B x_B
ff(c) =  ag_B*((tim-x_B)^gam); % consumption_B
f(c) = ag*((tim-x)^gam);   % consumption
gg(c) = exp(u_B)/((x_B)^alph); % utility_B
g(c) = exp(u)/((x)^alph) ;  % utility
LIMS = [0.3 1.0 0.0 2.0];
```

```
ezplot(ff,LIMS)
hold
ezplot(f,LIMS)
ezplot(gg,LIMS)
ezplot(g,LIMS)
```