```matlab
%% Main powerflow and short circuit program
%% STRA5432 - Power System Simulation
%% Prof. Paulo M. De Oliveira De jesus
%% v.1.0
%%==========================================
%% Data input
[db] = loaddatabase; %Load database
% System Modelling routines
[zgabc,ygabcn,zg012] = generation(db);  %Generation network model
[zabc,zabcn,yshabc,yshabcn,z012,ysh012] = network(db); %Network model
[S,Sabc,yl,ylabc,ylabcn] = demand(db); % Load demand model
% Power flow analysis
[V1,I1,losses(1),iter1]=zimplicit_1(zg012,z012,S);%The z-implicit power flow
[V2,I2,losses(2),iter2]=OpenDSS_1(zg012,z012,S,yl,ysh012);%OpenDSS Engine
[V3,I3,losses(3),iter3]=Newton_1(zg012,z012,S,ysh012);%Newton method
[V4,I4,losses(4),iter4]=NewtonRaphson_1(zg012,z012,S,ysh012);%Newton-Rhapson
[V5,I5,losses(5),iter5]=zimplicit_3(zgabc,zabc,Sabc);
[V6,I6,losses(6),iter6]=Newton_3(zgabc,zabc,Sabc,yshabc);
[V7,I7,losses(7),iter7]=OpenDSS_3(zgabc,zabc,Sabc,ylabc,yshabc);
[V8,I8,losses(8),iter8]=OpenDSS_4(ygabcn,zabcn,Sabc,ylabcn,yshabcn);
[V9,I9,losses(9),iter9]=OpenDSS_4_fsolve(ygabcn,zabcn,Sabc,ylabcn,yshabcn);
%losses.';
% Short circuit analysis
[Icc3,Icc1]=shortcircuit(z012,zg012);%Short-circuit 1ph 3ph (sequence nets)
[V10,I10]=OpenDSS_4_short1a(ygabcn,zabcn,Sabc,ylabcn,yshabcn);% Detailed 1ph
[V11,I11]=OpenDSS_4_short3(ygabcn,zabcn,Sabc,ylabcn,yshabcn);%Detailed 3ph
```