```matlab
% Part C
clear
syms f(x1,x2) x1 x2 g2(x1,x2) g3(x1,x2) lambda2

f(x1,x2) = x1^2 + x2;
dfx1 = diff(f,x1);
dfx2 = diff(f,x2);

g2(x1,x2) = -(x1 + x2^2 - 1);
dg2x1 = diff(g2,x1);
dg2x2 = diff(g2,x2);

% G3 is not binding so we leave it out

solution = solve(dfx1 - lambda2*dg2x1 == 0,...
    dfx2 - lambda2*dg2x2 == 0, g2 == 0);
lambda2 = double(solution.lambda2);
x1 = double(solution.x1);
x2 = double(solution.x2);

lambda2_final = lambda2(3)
x1_final = x1(3)
x2_final = x2(3)
optimum_value = double(f(x1_final,x2_final))
```

lambda2_final =

   0.4516

x1_final =

  -0.2258

x2_final =

  -1.1072

optimum_value =

  -1.0562

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