```matlab
 1 A=surveyfinal;    % importing data
 2 Y=A(:,2);    % selecting gpa as a dependent variable
 3 X=[ones(size(A,1),1) A(:,3:12) A(:,14:26) A(:,30) ];    % selecting male, relat,↙
department dummies, livpar, timecom, brkfst, frveg, alcohol, MA/PhD, job, social,↙
stdhrs, math, toefl,  and ambtn as independent variables
 4 % anthropology department is omitted to avoid multivariable trap
 5 Z=[ones(size(A,1),1) A(:,3:12) A(:,14:20) A(:,27:28) A(:,22:23) A(:,29) A(:,25:26)↙
A(:,30) ]; % forming matrix of instruments, where feduc and meduc are instruments for↙
MA/PhD; motvtn is the instrument for stdhrs
 6
 7 % computing betas for OLS and 2SLS
 8 P_z=Z*inv(Z'*Z)*Z';
 9 B_hat_2SLS=inv(X'*P_z*X)*X'*P_z*Y;
10 B_hat_OLS=(inv(X'*X)*X'*Y);
11 % computing R^2 and t statistics for OLS
12 Y_hat_OLS=X*B_hat_OLS;
13 resid_OLS=Y-Y_hat_OLS;
14 SSR_OLS=resid_OLS'*resid_OLS;
15 Y_bar=mean(Y);
16 SST=(Y-Y_bar)'*(Y-Y_bar);
17 R_squared_OLS=1-SSR_OLS/SST;
18 sigma_squared_hat_OLS=SSR_OLS/(size(X,1)-size(X,2));
19 Var_beta_hat_OLS=sigma_squared_hat_OLS*(inv(X'*X));
20 Var_betas_OLS=diag(Var_beta_hat_OLS);
21 st_error_betas_OLS=sqrt(Var_betas_OLS);
22 t_statistic_OLS=B_hat_OLS./st_error_betas_OLS;
23 %finished
24 % computing R^2 and t statistics for 2SLS
25 Y_hat_2SLS=X*B_hat_2SLS;
26 resid_2SLS=Y-Y_hat_2SLS;
27 SSR_2SLS=resid_2SLS'*resid_2SLS;
28 Y_bar=mean(Y);
29 SST=(Y-Y_bar)'*(Y-Y_bar);
30 R_squared_2SLS=1-SSR_2SLS/SST;
31 sigma_squared_hat_2SLS=SSR_2SLS/(size(X,1)-size(X,2));
32 Var_beta_hat_2SLS=sigma_squared_hat_2SLS*(inv(X'*X));
33 Var_betas_2SLS=diag(Var_beta_hat_2SLS);
34 st_error_betas_2SLS=sqrt(Var_betas_2SLS);
35 t_statistic_2SLS=B_hat_2SLS./st_error_betas_2SLS;
36 %finished
37 betas = [B_hat_OLS B_hat_2SLS]
38 st_errors = [st_error_betas_OLS  st_error_betas_2SLS]
39 number_observations=size(X,1)
40 r_sq=[R_squared_OLS R_squared_2SLS]
41 t_stat=[t_statistic_OLS t_statistic_2SLS]
```