Econometrics Interpretation Exercise

Consider the following estimation results from Microfit:

```
                        Ordinary Least Squares Estimation
*******************************************************************************
 Dependent variable is LC
 49 observations used for estimation from 1950 to 1998
*******************************************************************************
 Regressor              Coefficient       Standard Error         T-Ratio[Prob]
 C                          .48291             .27276             1.7705[.084]
 LC(-1)                    1.3006              .15514             8.3835[.000]
 LC(-2)                   -.52965              .14277            -3.7098[.001]
 LY                         .53920             .077867             6.9246[.000]
 LY(-1)                   -.58446              .13664            -4.2775[.000]
 LY(-2)                    .23525              .11179             2.1045[.042]
 LP                       -.16115             .079246            -2.0335[.049]
 LP(-1)                    .23680              .15905             1.4888[.144]
 LP(-2)                  -.070647             .086534            -.81640[.419]
*******************************************************************************
 R-Squared                      .99933   R-Bar-Squared                   .99920
 S.E. of Regression          .0097335   F-stat.    F(  8,  40)    7476.0[.000]
 Mean of Dependent Variable   12.4349   S.D. of Dependent Variable      .34370
 Residual Sum of Squares     .0037896   Equation Log-likelihood       162.4210
 Akaike Info. Criterion      153.4210   Schwarz Bayesian Criterion    144.9078
 DW-statistic                  2.0276
*******************************************************************************


                                Diagnostic Tests
*******************************************************************************
*    Test Statistics  *        LM Version        *         F Version
*******************************************************************************
*                     *                          *
* A:Serial Correlation*CHSQ(   1)=   .54504[.460]*F(   1,  39)=   .43868[.512]
*                     *                          *
* B:Functional Form   *CHSQ(   1)=  .062481[.803]*F(   1,  39)=  .049793[.825]
*                     *                          *
* C:Normality         *CHSQ(   2)=   .37664[.828]*       Not applicable
*                     *                          *
* D:Heteroscedasticity*CHSQ(   1)=   5.3569[.021]*F(   1,  47)=   5.7690[.020]
*******************************************************************************
   A:Lagrange multiplier test of residual serial correlation
   B:Ramsey's RESET test using the square of the fitted values
   C:Based on a test of skewness and kurtosis of residuals
   D:Based on the regression of squared residuals on squared fitted values
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Where the variables are:

LC: Log of real consumers expenditure in 1995 prices
LY: log of real personal disposable income in 1995 prices
LP: log of the consumer price index

a.) Briefly explain what the results tell us about the determination of consumption.

b.) Briefly explain what the t ratios, the F-statistic, R-Squared, the DW statistic and diagnostic tests A to D are and what they tell us.

c.) Explain the following variable deletion test and what it tells us:

```
                        Variable Deletion Test (OLS case)
*******************************************************************************
 Dependent variable is LC
 List of the variables deleted from the regression:
 LP(-2)
 49 observations used for estimation from 1950 to 1998
*******************************************************************************
 Regressor              Coefficient       Standard Error         T-Ratio[Prob]
 C                          .55618             .25652             2.1681[.036]
 LC(-1)                     1.2401             .13571             9.1375[.000]
 LC(-2)                    -.48828             .13293            -3.6732[.001]
 LY                         .55998            .073288             7.6409[.000]
 LY(-1)                    -.61294             .13157            -4.6586[.000]
 LY(-2)                     .25645             .10828             2.3684[.023]
 LP                        -.10364            .036156            -2.8664[.007]
 LP(-1)                     .11027            .035575             3.0995[.003]
*******************************************************************************
 Joint test of zero restrictions on the coefficients of deleted variables:
 Lagrange Multiplier Statistic     CHSQ( 1)=   .80309[.370]
 Likelihood Ratio Statistic        CHSQ( 1)=   .80975[.368]
 F Statistic                    F(  1,  40)=   .66651[.419]
*******************************************************************************
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