Example of using scatterWinteraction.R

This shows a raw scatter plot of y versus x, with different symbols for the two groups (dummy variable = 0 or 1). Superimposed on the raw scatterplot are the slopes for the two groups in the regression of y on x*dummyvariable, with or without adjustment for other covariates. Optionally the function will show the 95% confidence variables. Note that the two interaction variables (x*dummyvariable, and x*(1-dummyvariable)) must be part of the dataset.

Show the regression output for the first regression (adjusted). Run the function 3 more times, without showing regression output, but showing some of the plotting options.


```
*** Outcome is Log.Ozone
Number of observations in original data is 153

Number of observations after excluding missing values in the model is 111

*** Regression with interaction
Coefficients
                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                -2.2013     0.5893 -3.7351   0.0003
Hi.Wind                     2.1643     0.8541  2.5340   0.0128
Temp                        0.0702     0.0081  8.6377   0.0000
Month                      -0.0264     0.0371 -0.7116   0.4783
Solar.R                     0.0025     0.0006  4.3134   0.0000
`Interaction: Temp x Hi.Wind`  -0.0322  0.0110 -2.9327   0.0041

Residual standard error= 0.5048 on 105 degrees of freedom
Multiple R-squared= 0.6755
F-statistic: 43.7188 on 5 and 105 df, p-value= < 1e-04

*** Reparamaterized model
Coefficients
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    -2.2013     0.5893 -3.7351   0.0003
Hi.Wind         2.1643     0.8541  2.5340   0.0128
Temp.LowWind    0.0702     0.0081  8.6377   0.0000
Temp.HiWind     0.0380     0.0088  4.3094   0.0000
Month          -0.0264     0.0371 -0.7116   0.4783
Solar.R         0.0025     0.0006  4.3134   0.0000

Residual standard error= 0.5048 on 105 degrees of freedom
Multiple R-squared= 0.6755
F-statistic: 43.7188 on 5 and 105 df, p-value= < 1e-04

For Hi.Wind = 0 group: intercept= -2.2013  and slope for Temp = 0.0702
For Hi.Wind = 1 group: intercept= -0.0369  and slope for Temp = 0.038
```

Adjusted for month, solar.R

Legend:
- Slope for low wind (blue)
- Slope for high wind (red)

Y-axis: Log(ozone, ppb)
X-axis: Temperature (degrees F)

Adjusted for month, solar.R

Log(ozone, ppb)

Slope for low wind
Slope for high wind

Temperature (degrees F)

Unadjusted for other covariates

Log(ozone, ppb)

Slope for low wind
Slope for high wind

Temperature (degrees F)

Adjusted for month, solar.R

Log(ozone, ppb)

Slope for low wind
Slope for high wind

Temperature (degrees F)

Unadjusted for other covariates

Log(ozone, ppb)

Slope for low wind
Slope for high wind

Temperature (degrees F)