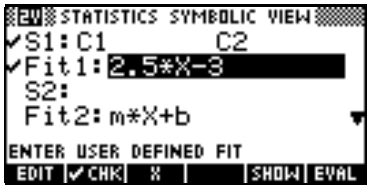
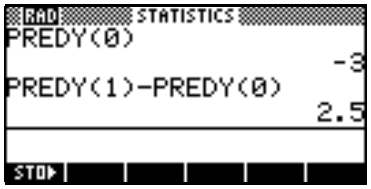
If the line of best fit is $y = m*X + b$ (as shown in the **SYMB** screen) then the calculations shown below, performed in the **HOME** page, will give the slope and y-intercept of the line of regression.





$$PREDY(0) = m*0+b$$
$$= b$$

and $$PREDY(1) - PREDY(0) = (m*1+b) - (m*0+b)$$
$$= m+b-b$$
$$= m$$

Summary

Linear - m*X+b
- b = PREDY(0)
- m = PREDY(1)-PREDY(0)

Logarithmic - m*LN(X)+b
- b = PREDY(1)
- m = PREDY(e)- PREDY(1)

Exponential - b*EXP(m*X)
- b = PREDY(0)
- m = LN(PREDY(1)/PREDY(0))

Power - b*X^m
- b = PREDY(1)
- m = LN(PREDY(e)/PREDY(1))

Quadratic - a*X^2+b*X+c
- a = (PREDY(2)-2*PREDY(1)+PREDY(0))/2
- b = (PREDY(2)+4*PREDY(1)-3*PREDY(0))/2
- c = PREDY(0)

or,
$$\begin{bmatrix} a \\ b \\ c \end{bmatrix} = \begin{bmatrix} 0 & 0 & 1 \\ 1 & 1 & 1 \\ 4 & 2 & 1 \end{bmatrix}^{-1} \times \begin{bmatrix} PREDY(0) \\ PREDY(1) \\ PREDY(2) \end{bmatrix}$$

Cubic - a*X^3+b*X^2+cX+d

$$\begin{bmatrix} a \\ b \\ c \\ d \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 1 \\ 8 & 4 & 2 & 1 \\ 27 & 9 & 3 & 1 \end{bmatrix}^{-1} \times \begin{bmatrix} PREDY(0) \\ PREDY(1) \\ PREDY(2) \\ PREDY(3) \end{bmatrix}$$