4.13 Non-linear regression

4.13.1 Quadratic regression

To compute the quadratic regression of a set of data, proceed as in 4.4.4 on page 65, but replace `LinReg(ax+b)` by `QuadReg`. The regression curve is in the form $ax^2 + bx + c$ (as displayed at the top of the screen).

To graph the quadratic regression function, proceed as in 4.4.5 on page 66.

4.13.2 Cubic regression

To compute the quadratic regression of a set of data, proceed as in 4.4.4 on page 65, but replace `LinReg(ax+b)` by `CubicReg`. The regression curve is in the form $ax^3 + bx^2 + cx + d$.

To graph the cubic regression function, proceed as in 4.4.5 on page 66.

4.13.3 Exponential regression

To compute the quadratic regression of a set of data, proceed as in 4.4.4 on page 65, but replace `LinReg(ax+b)` by `ExpReg`. The regression curve is in the form $a \times b^x$.

To graph the exponential regression function, proceed as in 4.4.5 on page 66

4.13.4 Power regression

To compute the quadratic regression of a set of data, proceed as in 4.4.4 on page 65, but replace `LinReg(ax+b)` by `PwrReg`. The regression curve is in the form $a \times x^b$.

To graph the power regression function, proceed as in 4.4.5 on page 66.

4.13.5 Sine regression

To compute the quadratic regresion of a set of data, proceed as in 4.4.4 on page 65, but replace `LinReg(ax+b)` by `SinReg`. The default `Iterations` is 3, and can be changed up to 16 (the higher the more precise, but also the slower). The `Period` should be given in the question. The regression curve is in the form $a \times \sin(bx + c) + d$.

To graph the sine regression function, proceed as in 4.4.5 on page 66.