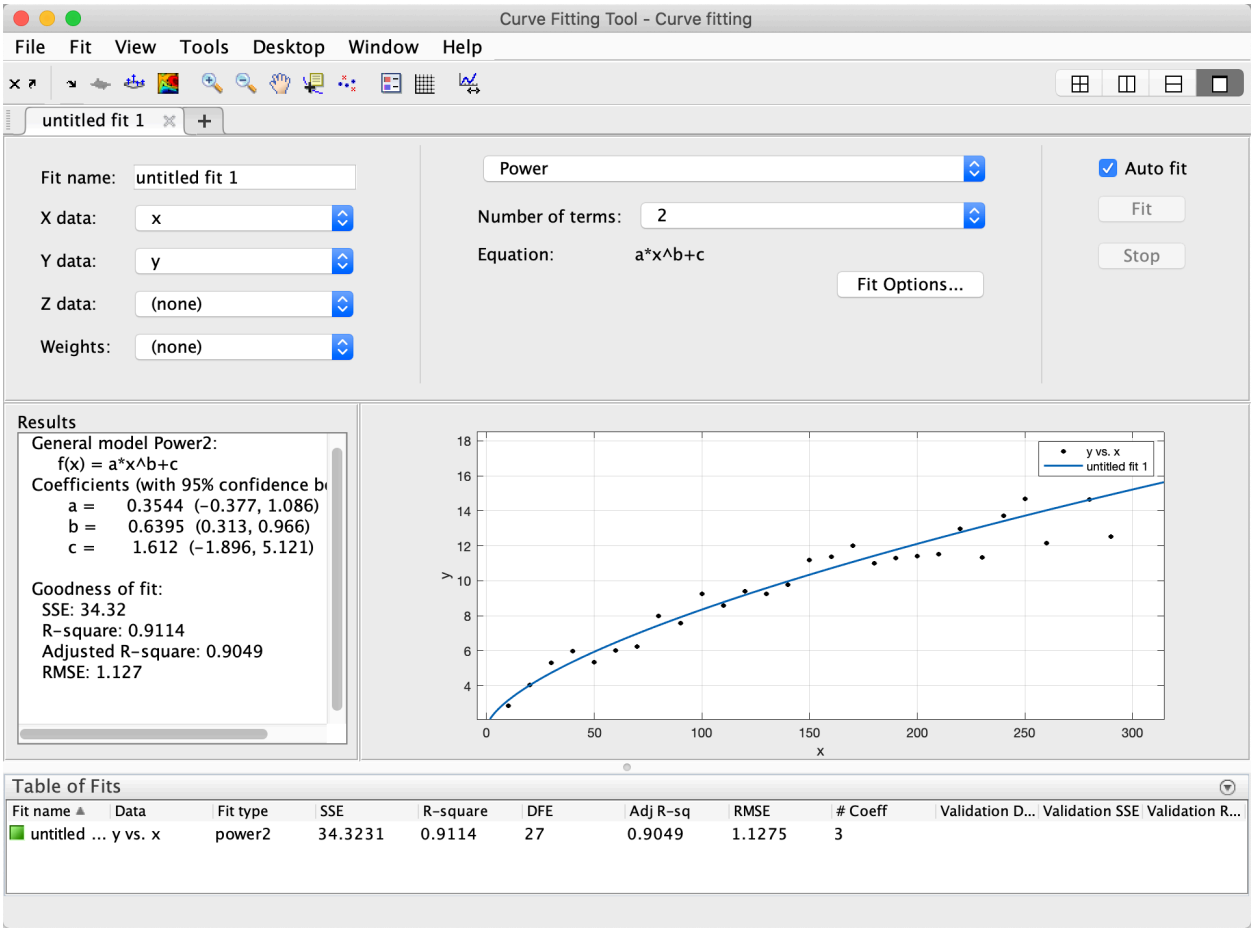
The Relationship between step and distance in Random Walk problem

I used Matlab to fit the curve with the data collected by RandomWalk.java. Here is the conclusion.



General model Power2:
f(x) = a*x^b+c
Coefficients (with 95% confidence bounds):
a = 0.3544 (-0.377, 1.086)
b = 0.6395 (0.313, 0.966)
c = 1.612 (-1.896, 5.121)

Goodness of fit:
SSE: 34.32
R-square: 0.9114
Adjusted R-square: 0.9049
RMSE: 1.127

Thus, the expression about this problem is approximately like this

$$d = f(n) = 0.3544 * \text{sqrt}(n) + 1.612$$