|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Minutes Running FOr the week (x) | Weight by week  (y) | \_  (x - x) | \_  (y - y) | \_ \_  (x - x)\*(y - y) | \_  (x - x)^2 | \_  (y - y)^2 |
| 90 | 180 | 26.875 | 1.75 | 47.03125 | 722.265625 | 3.0625 |
| 50 | 178 | -13.125 | -0.25 | 3.28125 | 172.265625 | 0.0625 |
| 60 | 179 | -3.125 | 0.75 | -2.34375 | 9.765625 | 0.5625 |
| 70 | 177 | 6.875 | -1.25 | -8.59375 | 47.265625 | 1.5625 |
| 62 | 180 | -1.125 | 1.75 | -1.96875 | 1.265625 | 3.0625 |
| 55 | 179 | -8.125 | 0.75 | -6.09375 | 66.015625 | 0.5625 |
| 58 | 177 | -5.125 | -1.25 | 6.40625 | 26.265625 | 1.5625 |
| 60 | 176 | -3.125 | -2.25 | 7.03125 | 9.765625 | 5.0625 |

\_ \_

x = 63.125 y = 178.25 Σ = 44.75 Σ= 1054.875 Σ=15.5

Sy = 1.4880476182856899

Sx = 12.275847366737198

b = 0.0424261275690999

y intercept (a) = 175.57185069720057

y = 172.02 @ 70

Mean of x = 63.125

Mean of y = 178.25

r = 0.35

var yMean = yArray.reduce(function(a,b){return a + b}) / yArray.length

Fifth column

var productOfXandY = [];

for (var i = 0; i<xArray.length; i++){

productOfXandY[i] = (xArray[i] - xMean) \* (yArray[i] - yMean)

}

var squareOfYMinusYMean = [];

for (var i=0; i< yArray.length; i++){

squareOfYMinusYMean[i] = (yArray[i] - yMean) \*\* 2;

}

Sigma values

squareOfXMinusXMean.reduce(function(a,b){return a+b})

1054.875

squareOfYMinusYMean.reduce(function(a,b){return a+b})

15.5

Standard deviation of y:

var Sy = Math.sqrt(15.5/ (yArray.length - 1))

Standard deviation of x:

var Sx = Math.sqrt(1054.875/ (xArray.length - 1))

Slope (b):

var b = r\*(Sy/Sx)

Y intercept (a):

var yIntercept = yMean - (b \* xMean);

End Point:

var y = yIntercept - (b\*70)

