Method to calculate the shortest distance between a point and a line.



Let r = (b2 – a2) / (b1 – a1) -----(1)

According triangular theorem

(a1 + i – p) / (a2 + ri – q) = r

(a1 + i – p) = (a2 + ri – q)r

a1 + i - p = a2r + r2i – qr

(1 – r2)i = a2r + p – a1 – qr

i = (a2 – q)r + p – a1 ------(2)

d = sqrt( (a1 + i – p)2 + (a2 + ri – q)2 )----------(3)

Method to find the Rectangle or Line which is most close to Point.