Algorithm for Two Dimensional Translation on Line Segment

**Objective:**

To implement 2D Translation on a Line Segment.

**Description:**

A translation process moves every point a constant distance in a specified direction. It can be described as a rigid motion. A translation can also be interpreted as the addition of a constant vector to every point, or as shifting the origin of the coordinate system.

Suppose, If point (X, Y) is to be translated by amount Dx and Dy to a new location (X’, Y’)

then new coordinates can be obtained by adding Dx to X and Dy to Y as:

X' = Dx + X

Y' = Dy + Y

or

P' = T + P where

P' = (X', Y'),

T = (Dx, Dy ),

P=(X,Y)

Here, P(X, Y) is the original point. T(Dx, Dy) is the translation factor, i.e. the amount by which the point will be translated. P'(X’, Y’) is the coordinates of point P after translation. The idea to translate a line is to translate both of the end points of the line by the given translation factor(dx, dy) and then draw a new line with inbuilt graphics function.