Calculation of the optimal points of cross in tray function with the help of the Particle Swarm Optimization algorithm (PSO)

In this program we are trying to find optimal points. The range of x and y is from -10 to +10. First, we calculate all the values ​​of this function in the range of x and y.

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We consider gbest to be the best fitting value of the function in all values. We choose the pbest value randomly because each particle can have a different pbest value. Then the speed of the particle is calculated. To calculate the speed of the particle, we calculate the cognitive component and the social component. Then add this value to the position of the particle to calculate its new position. After finding the new position, its fit value is calculated with the help of the tray crossing function and compared with the gbest value and this continues until the best fit is reached.