Algorithm to Compute the Final Q-Value

The Heuristic Measure for Estimating the Complexity of Novel Coronavirus is given as:

$u(p, t) = p * n / t^2;$ - - - (1)

$du = (\partial u / \partial p) * dp + (\partial u / \partial t) * dt$

$= (n / t^2) * dp - (2pn / t^3) * dt$ - - - (2)

We will use the initial values of p and t, to estimate dp and dt as -

$dp / dt = p / t = r;$ - - - (3)

$dp = r * dt$ - - - (4)

Substituting (4), in (2), we get

$du = (n / t^2) * r * dt - (2pn / t^3) * dt$

$= ((n / t^2) * r - (2pn / t^3)) * dt$ - - - (5)

<u>Algorithm</u>

Step-1: Accept (n, t, p) from user.
Step-2: Compute "u" using (1).
Step-3: Assume dt = 100,000 and compute du using (5).
Step-4: Compute dp using (3) and (4).
Step-5: Update "p" as: p = p + dp;
Step-6: Update "u" as: u = u + du;
Step-7: Compute "t" using (1).
Step-8: If u > 1.0, go to step-3.
Step-9: Compute Final Q-value as p /n;
Display (n, t, p, u, Final Q) to user.
Step-10: Stop.