

```

n = 5;

y[0] = 0; x[0] = 0; y[n + 1] = Y; x[n + 1] = X;

a11[i_, j_] := 1 / 2 y[i] x[i]^2;
a22[i_, j_] := 1 / 2 γ^2 y[i]; a12[i_, j_] := ρ γ y[i] x[i];
a11Overa12[i_, j_] := 1 / 2 x[i] / ρ / γ; a12Overa22[i_, j_] := ρ x[i] / (1 / 2 γ)
ineq[i_, j_, 1] :=
  a11Overa12[i, j] - 1 / 2 ((x[i + 1] - x[i]) / (y[i + 1] - y[i]) w[i, j] +
    (1 - w[i, j]) (x[i] - x[i - 1]) / (y[i] - y[i - 1]))
ineq[i_, j_, 2] :=
  1 - 1 / 2 ((y[i + 1] - y[i]) / (x[i + 1] - x[i]) w[i, j] +
    (1 - w[i, j]) (y[i] - y[i - 1]) / (x[i] - x[i - 1])) a12Overa22[i, j]
ineq2 = Flatten[Table[{x[i] ≤ x[i + 1], y[i] ≤ y[i + 1]}, {i, 0, n}]];
ineq3 = Flatten[Table[0 ≤ w[i, j] ≤ 1, {i, 0, n + 1}, {j, 0, n + 1}]];
ineq4 = Flatten[Table[Simplify[0 ≤ ineq[i, j, k]], {i, 0, n + 1}, {j, 0, n + 1}, {k, 2}]];
Target = Sum[(x[i + 1] - x[i])^2 + (y[i + 1] - y[i])^2, {i, 0, n}];

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