**Iterating through SVM Optimization problem:**

step :: 0.8

w :: [80 80]

b , w :: -40.0 [80 80]

transorm :: [1, 1]

w\_t :: [80 80]

setting found\_option value to true

-1 \*( [80 80] . [1 7] )+ -40.0 = -600.0

found\_option to false

-1 \*( [80 80] . [2 8] )+ -40.0 = -760.0

found\_option to false

-1 \*( [80 80] . [3 8] )+ -40.0 = -840.0

found\_option to false

1 \*( [80 80] . [5 1] )+ -40.0 = 440.0

1 \*( [80 80] . [ 6 -1] )+ -40.0 = 360.0

1 \*( [80 80] . [7 3] )+ -40.0 = 760.0

final found\_option value : False

b , w :: -40.0 [80 80]

transorm :: [1, -1]

w\_t :: [ 80 -80]

setting found\_option value to true

-1 \*( [ 80 -80] . [1 7] )+ -40.0 = 520.0

-1 \*( [ 80 -80] . [2 8] )+ -40.0 = 520.0

-1 \*( [ 80 -80] . [3 8] )+ -40.0 = 440.0

1 \*( [ 80 -80] . [5 1] )+ -40.0 = 280.0

1 \*( [ 80 -80] . [ 6 -1] )+ -40.0 = 520.0

1 \*( [ 80 -80] . [7 3] )+ -40.0 = 280.0

final found\_option value : True

seting opt\_dict key .... 113.13708498984761

optimization\_dict[ [113.13708498984761] ] =[ [ 80 -80] , -40.0 ]

b , w :: -40.0 [80 80]

transorm :: [-1, 1]

w\_t :: [-80 80]

setting found\_option value to true

-1 \*( [-80 80] . [1 7] )+ -40.0 = -440.0

found\_option to false

-1 \*( [-80 80] . [2 8] )+ -40.0 = -440.0

found\_option to false

-1 \*( [-80 80] . [3 8] )+ -40.0 = -360.0

found\_option to false

1 \*( [-80 80] . [5 1] )+ -40.0 = -360.0

found\_option to false

1 \*( [-80 80] . [ 6 -1] )+ -40.0 = -600.0

found\_option to false

1 \*( [-80 80] . [7 3] )+ -40.0 = -360.0

found\_option to false

final found\_option value : False

b , w :: -40.0 [80 80]

transorm :: [-1, -1]

w\_t :: [-80 -80]

setting found\_option value to true

-1 \*( [-80 -80] . [1 7] )+ -40.0 = 680.0

-1 \*( [-80 -80] . [2 8] )+ -40.0 = 840.0

-1 \*( [-80 -80] . [3 8] )+ -40.0 = 920.0

1 \*( [-80 -80] . [5 1] )+ -40.0 = -520.0

found\_option to false

1 \*( [-80 -80] . [ 6 -1] )+ -40.0 = -440.0

found\_option to false

1 \*( [-80 -80] . [7 3] )+ -40.0 = -840.0

found\_option to false

final found\_option value : False

b , w :: -36.0 [80 80]

transorm :: [1, 1]

w\_t :: [80 80]

setting found\_option value to true

-1 \*( [80 80] . [1 7] )+ -36.0 = -604.0

found\_option to false

-1 \*( [80 80] . [2 8] )+ -36.0 = -764.0

found\_option to false

-1 \*( [80 80] . [3 8] )+ -36.0 = -844.0

found\_option to false

1 \*( [80 80] . [5 1] )+ -36.0 = 444.0

1 \*( [80 80] . [ 6 -1] )+ -36.0 = 364.0

1 \*( [80 80] . [7 3] )+ -36.0 = 764.0

final found\_option value : False

b , w :: -36.0 [80 80]

transorm :: [1, -1]

w\_t :: [ 80 -80]

setting found\_option value to true

-1 \*( [ 80 -80] . [1 7] )+ -36.0 = 516.0

-1 \*( [ 80 -80] . [2 8] )+ -36.0 = 516.0

-1 \*( [ 80 -80] . [3 8] )+ -36.0 = 436.0

1 \*( [ 80 -80] . [5 1] )+ -36.0 = 284.0

1 \*( [ 80 -80] . [ 6 -1] )+ -36.0 = 524.0

1 \*( [ 80 -80] . [7 3] )+ -36.0 = 284.0

final found\_option value : True

seting opt\_dict key .... 113.13708498984761

optimization\_dict[ [113.13708498984761] ] =[ [ 80 -80] , -36.0 ]

b , w :: -36.0 [80 80]

transorm :: [-1, 1]

w\_t :: [-80 80]

setting found\_option value to true

-1 \*( [-80 80] . [1 7] )+ -36.0 = -444.0

found\_option to false

-1 \*( [-80 80] . [2 8] )+ -36.0 = -444.0

found\_option to false

-1 \*( [-80 80] . [3 8] )+ -36.0 = -364.0

found\_option to false

1 \*( [-80 80] . [5 1] )+ -36.0 = -356.0

found\_option to false

1 \*( [-80 80] . [ 6 -1] )+ -36.0 = -596.0

found\_option to false

1 \*( [-80 80] . [7 3] )+ -36.0 = -356.0

found\_option to false

final found\_option value : False

b , w :: -36.0 [80 80]

transorm :: [-1, -1]

w\_t :: [-80 -80]

setting found\_option value to true

-1 \*( [-80 -80] . [1 7] )+ -36.0 = 676.0

-1 \*( [-80 -80] . [2 8] )+ -36.0 = 836.0

-1 \*( [-80 -80] . [3 8] )+ -36.0 = 916.0

1 \*( [-80 -80] . [5 1] )+ -36.0 = -516.0

found\_option to false

1 \*( [-80 -80] . [ 6 -1] )+ -36.0 = -436.0

found\_option to false

1 \*( [-80 -80] . [7 3] )+ -36.0 = -836.0

found\_option to false

final found\_option value : False

b , w :: -32.0 [80 80]

transorm :: [1, 1]

w\_t :: [80 80]

setting found\_option value to true

-1 \*( [80 80] . [1 7] )+ -32.0 = -608.0

found\_option to false

-1 \*( [80 80] . [2 8] )+ -32.0 = -768.0

found\_option to false

-1 \*( [80 80] . [3 8] )+ -32.0 = -848.0

found\_option to false

1 \*( [80 80] . [5 1] )+ -32.0 = 448.0

1 \*( [80 80] . [ 6 -1] )+ -32.0 = 368.0

1 \*( [80 80] . [7 3] )+ -32.0 = 768.0

final found\_option value : False