```
<del></del>
```

## Solution 1

```
Iteration Count = 219100
                               Function Value = 35.298980
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219200
                               Function Value = 35.298977
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219300
                               Function Value = 35.298977
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219400
                               Function Value = 35.298975
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219500
                               Function Value = 35.298973
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219600
                               Function Value = 35.298974
                                                                Percentage Difference = -0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219700
                               Function Value = 35.298977
                                                                Percentage Difference = -0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219800
                               Function Value = 35.298975
                                                                Percentage Difference = -0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 219900
                               Function Value = 35.298974
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093872 alpha mult = 0.000037
Iteration Count = 220000
                               Function Value = 35.298976
                                                                Percentage Difference = 0.000000 Gradient
Norm = 1992.093994 alpha mult = 0.000037
Iteration Count = 220001
```

```
Valve ID = 80
Valve Value [0] = 0.000000
                                Gradient = 0.002003
Valve Value [1] = 0.000000
                                Gradient = 0.002003
Valve Value [2] = 0.000000
                                Gradient = 0.002003
Valve Value [3] = 0.000000
                                Gradient = 0.002003
Valve Value [4] = 0.000000
                                Gradient = 0.002003
Valve Value [5] = 0.000000
                                Gradient = 0.002003
Valve Value [6] = 0.000000
                                Gradient = 0.002003
Valve Value [7] = 0.000000
                                Gradient = 0.002003
Valve Value [8] = 0.000000
                                Gradient = 0.002003
Valve Value [9] = 0.000000
                                Gradient = 0.002003
Valve Value [10] = 0.000000
                                Gradient = 0.002003
Valve Value [11] = 0.000000
                                Gradient = 0.002003
Valve Value [12] = 0.000000
                                Gradient = 0.002003
Valve Value [13] = 0.000000
                                Gradient = 0.002003
Valve Value [14] = 0.000000
                                Gradient = 0.002003
Valve Value [15] = 0.000000
                                Gradient = 0.002003
Valve Value [16] = 0.000000
                                Gradient = 0.002003
Valve Value [17] = 0.000000
                                Gradient = 0.002003
Valve Value [18] = 0.000000
                                Gradient = 0.002003
Valve Value [19] = 0.000000
                                Gradient = 0.002003
                                Gradient = 0.002003
Valve Value [20] = 0.000000
Valve Value [21] = 0.000000
                                Gradient = 0.002003
Valve Value [22] = 0.000000
                                Gradient = 0.002003
Valve Value [23] = 0.000000
                                Gradient = 0.002003
```

```
Valve ID = 78
Valve Value [0] = 32.177723
                                Gradient = 0.002232
Valve Value [1] = 28.174454
                                Gradient = 0.002556
Valve Value [2] = 2.758894
                                Gradient = 0.001545
Valve Value [3] = 32.255451
                                Gradient = 0.004005
Valve Value [4] = 20.578644
                                Gradient = 0.001259
Valve Value [5] = 19.007080
                                Gradient = 0.000896
Valve Value [6] = 53.521961
                                Gradient = 0.001163
Valve Value [7] = 53.924419
                                Gradient = 0.000896
```

Gradient = 0.000515

Gradient = 0.000820

```
Valve Value [10] = 6.930030
                                Gradient = -0.009174
Valve Value [11] = 35.808369
                                Gradient = -0.001602
Valve Value [12] = 17.626621
                                Gradient = 0.000286
Valve Value [13] = 39.946629
                                Gradient = -0.006390
Valve Value [14] = 12.376292
                                Gradient = 0.000362
Valve Value [15] = 36.964123
                                Gradient = 0.001221
Valve Value [16] = 15.542501
                                Gradient = 0.000992
Valve Value [17] = 36.536915
                                Gradient = 0.003128
Valve Value [18] = 42.490280
                                Gradient = 0.000534
Valve Value [19] = 36.750393
                                Gradient = 0.000687
Valve Value [20] = 25.366861
                                Gradient = -0.001278
Valve Value [21] = 20.145193
                                Gradient = -0.000648
Valve Value [22] = 10.083963
                                Gradient = 0.000534
Valve Value [23] = 0.000000
                                Gradient = 0.002003
Valve ID = 76
Valve Value [0] = 0.038475
                                Gradient = 0.000439
Valve Value [1] = 12.381019
                                Gradient = 0.001221
Valve Value [2] = 0.000000
                                Gradient = 44.632874
Valve Value [3] = 11.526087
                                Gradient = 0.005379
Valve Value [4] = 8.061313
                                Gradient = 0.000877
Valve Value [5] = 11.031863
                                Gradient = -0.000534
Valve Value [6] = 24.271534
                                Gradient = -0.000286
Valve Value [7] = 37.325058
                                Gradient = 0.000706
Valve Value [8] = 36.194843
                                Gradient = -0.000076
Valve Value [9] = 25.798403
                                Gradient = -0.001068
Valve Value [10] = 10.404519
                                Gradient = -0.012608
Valve Value [11] = 6.680814
                                Gradient = -0.002422
Valve Value [12] = 19.109339
                                Gradient = -0.000458
Valve Value [13] = 14.664110
                                Gradient = -0.001621
Valve Value [14] = 16.284618
                                Gradient = -0.000362
Valve Value [15] = 7.573043
                                Gradient = -0.000877
Valve Value [16] = 15.557719
                                Gradient = -0.000935
Valve Value [17] = 9.589520
                                Gradient = 0.000401
Valve Value [18] = 17.126434
                                Gradient = 0.001926
Valve Value [19] = 21.327318
                                Gradient = 0.001087
Valve Value [20] = 14.599547
                                Gradient = 0.003109
Valve Value [21] = 10.791697
                                Gradient = 0.004940
Valve Value [22] = 14.413294
                                Gradient = 0.002193
Valve Value [23] = 2.892633
                                Gradient = -0.000992
Valve ID = 74
Valve Value [0] = 26.001165
                                Gradient = 0.000362
Valve Value [1] = 37.700798
                                Gradient = -0.000916
                                Gradient = 0.000782
Valve Value [2] = 50.757923
Valve Value [3] = 66.494507
                                Gradient = 0.002327
                                Gradient = -0.000076
Valve Value [4] = 41.368141
Valve Value [5] = 75.755363
                                Gradient = 0.001106
Valve Value [6] = 84.221512
                                Gradient = 0.000801
Valve Value [7] = 85.813133
                                Gradient = 0.000095
Valve Value [8] = 78.223915
                                Gradient = -0.001163
Valve Value [9] = 75.894737
                                Gradient = -0.000801
Valve Value [10] = 35.792797
                                Gradient = -0.012741
Valve Value [11] = 65.776611
                                Gradient = 0.000401
Valve Value [12] = 56.443291
                                Gradient = -0.000916
Valve Value [13] = 79.924438
                                Gradient = -0.002098
Valve Value [14] = 50.895714
                                Gradient = -0.000877
Valve Value [15] = 44.315472
                                Gradient = -0.000305
Valve Value [16] = 73.631790
                                Gradient = -0.000134
Valve Value [17] = 81.668747
                                Gradient = 0.004005
Valve Value [18] = 62.262508
                                Gradient = 0.004005
Valve Value [19] = 73.189163
                                Gradient = -0.001678
Valve Value [20] = 57.232632
                                Gradient = -0.002403
Valve Value [21] = 63.189323
                                Gradient = -0.003128
```

Valve Value [8] = 62.301395

Valve Value [9] = 57.860081

```
Valve Value [22] = 15.566212
                                Gradient = -0.001907
Valve Value [23] = 0.000000
                                Gradient = 0.001984
Valve ID = 72
Valve Value [0] = 76.352699
                                Gradient = 0.002403
Valve Value [1] = 51.539822
                                Gradient = 0.002136
Valve Value [2] = 121.441620
                                Gradient = 0.002441
Valve Value [3] = 82.620987
                                Gradient = 0.002708
Valve Value [4] = 87.094292
                                Gradient = 0.002308
Valve Value [5] = 130.182053
                                Gradient = 0.002499
Valve Value [6] = 74.680923
                                Gradient = 0.002117
Valve Value [7] = 75.264359
                                Gradient = 0.001659
Valve Value [8] = 69.285828
                                Gradient = -0.003471
Valve Value [9] = 64.637070
                                Gradient = 0.000916
Valve Value [10] = 84.608757
                                Gradient = -0.004654
Valve Value [11] = 98.192276
                                Gradient = 0.002594
Valve Value [12] = 94.535324
                                Gradient = 0.000954
Valve Value [13] = 74.495049
                                Gradient = -0.003433
Valve Value [14] = 93.464203
                                Gradient = 0.001221
Valve Value [15] = 97.510239
                                Gradient = 0.001202
Valve Value [16] = 84.093018
                                Gradient = 0.001202
Valve Value [17] = 94.723480
                                Gradient = 0.004005
Valve Value [18] = 91.071404
                                Gradient = 0.003109
Valve Value [19] = 89.997696
                                Gradient = 0.001335
Valve Value [20] = 108.668045
                                Gradient = 0.001888
Valve Value [21] = 100.423599
                                Gradient = 0.000801
Valve Value [22] = 91.457085
                                Gradient = 0.000534
Valve Value [23] = 44.255127
                                Gradient = 0.000000
Valve ID = 40
Valve Value [0] = 48.558910
                                Gradient = -0.001373
Valve Value [1] = 49.609184
                                Gradient = -0.001354
Valve Value [2] = 35.586761
                                Gradient = -0.001545
Valve Value [3] = 26.469423
                                Gradient = 0.000553
Valve Value [4] = 53.340176
                                Gradient = -0.001545
Valve Value [5] = 27.035156
                                Gradient = -0.001335
Valve Value [6] = 44.612988
                                Gradient = -0.001202
Valve Value [7] = 32.212128
                                Gradient = -0.001068
Valve Value [8] = 42.628593
                                Gradient = -0.001335
Valve Value [9] = 45.801704
                                Gradient = -0.000191
Valve Value [10] = 56.262287
                                Gradient = -0.007820
Valve Value [11] = 51.002716
                                Gradient = -0.000935
Valve Value [12] = 24.501432
                                Gradient = -0.000496
Valve Value [13] = 21.139946
                                Gradient = -0.007305
Valve Value [14] = 63.619576
                                Gradient = -0.000210
Valve Value [15] = 55.335327
                                Gradient = -0.000668
Valve Value [16] = 27.794827
                                Gradient = -0.000839
Valve Value [17] = 22.696043
                                Gradient = 0.000591
Valve Value [18] = 50.574471
                                Gradient = -0.000687
Valve Value [19] = 35.902382
                                Gradient = -0.000420
Valve Value [20] = 37.263580
                                Gradient = -0.001144
Valve Value [21] = 44.419533
                                Gradient = -0.000477
Valve Value [22] = 35.393330
                                Gradient = 0.000458
Valve Value [23] = 0.000000
                                Gradient = 0.001297
Valve ID = 6
Valve Value [0] = 183.164108
                                Gradient = 0.003395
Valve Value [1] = 179.385117
                                Gradient = 0.002594
Valve Value [2] = 210.529449
                                Gradient = 0.002460
Valve Value [3] = 204.810989
                                Gradient = 0.001793
Valve Value [4] = 210.417877
                                Gradient = 0.001926
Valve Value [5] = 262.973328
                                Gradient = 0.002098
Valve Value [6] = 281.263977
                                Gradient = 0.001774
```

Valve Value [7] = 284.495575

Gradient = 0.000954

```
Valve Value [8] = 297.435577
                                Gradient = 0.005512
Valve Value [9] = 269.928680
                                Gradient = -0.000572
Valve Value [10] = 241.163467
                                Gradient = 0.004005
Valve Value [11] = 257.374420
                                Gradient = -0.002289
Valve Value [12] = 212.162918
                                Gradient = -0.000839
Valve Value [13] = 233.158798
                                Gradient = 0.004005
Valve Value [14] = 236.595032
                                Gradient = -0.000057
Valve Value [15] = 241.645477
                                Gradient = 0.000458
Valve Value [16] = 216.567062
                                Gradient = 0.000305
Valve Value [17] = 239.615677
                                Gradient = -0.002213
Valve Value [18] = 254.390106
                                Gradient = -0.001106
Valve Value [19] = 257.138336
                                Gradient = 0.000839
Valve Value [20] = 243.100510
                                Gradient = 0.000019
Valve Value [21] = 238.968124
                                Gradient = 0.000668
Valve Value [22] = 166.891449
                                Gradient = 0.000114
Valve Value [23] = 44.805492
                                Gradient = 0.001221
Valve ID = 3
Valve Value [0] = 106.769081
                                Gradient = 0.001640
Valve Value [1] = 127.833130
                                Gradient = 0.000954
Valve Value [2] = 89.087929
                                Gradient = 0.000515
Valve Value [3] = 122.216835
                                Gradient = -0.000401
Valve Value [4] = 123.334625
                                Gradient = 0.000153
Valve Value [5] = 132.812103
                                Gradient = 0.000038
Valve Value [6] = 206.609024
                                Gradient = -0.000019
Valve Value [7] = 209.258514
                                Gradient = -0.000420
Valve Value [8] = 219.314789
                                Gradient = -0.003033
Valve Value [9] = 205.317459
                                Gradient = -0.001297
Valve Value [10] = 160.464966
                                Gradient = 0.004005
Valve Value [11] = 159.891586
                                Gradient = 0.004005
Valve Value [12] = 117.650497
                                Gradient = -0.001621
Valve Value [13] = 162.774445
                                Gradient = 0.004005
Valve Value [14] = 143.149704
                                Gradient = -0.001106
Valve Value [15] = 144.146988
                                Gradient = -0.000610
Valve Value [16] = 132.488327
                                Gradient = -0.000782
Valve Value [17] = 145.339081
                                Gradient = 0.002270
Valve Value [18] = 193.917694
                                Gradient = 0.004005
Valve Value [19] = 167.152237
                                Gradient = -0.000420
Valve Value [20] = 136.918839
                                Gradient = 0.004005
Valve Value [21] = 138.552948
                                Gradient = -0.000229
Valve Value [22] = 75.440422
                                Gradient = -0.000381
Valve Value [23] = 0.532490
                                Gradient = 0.000801
Valve ID = 5
Valve Value [0] = 26.054741
                                Gradient = 0.001125
Valve Value [1] = 59.510448
                                Gradient = 0.003986
Valve Value [2] = 50.758842
                                Gradient = 0.000992
Valve Value [3] = 140.736801
                                Gradient = 0.003986
Valve Value [4] = 55.242786
                                Gradient = 0.004005
Valve Value [5] = 86.779320
                                Gradient = 0.000954
Valve Value [6] = 108.489403
                                Gradient = 0.000801
Valve Value [7] = 123.146317
                                Gradient = 0.000801
Valve Value [8] = 114.415329
                                Gradient = -0.001717
Valve Value [9] = 101.680328
                                Gradient = -0.002060
Valve Value [10] = 89.346359
                                Gradient = 0.004005
Valve Value [11] = 72.435638
                                Gradient = -0.002117
Valve Value [12] = 75.545090
                                Gradient = -0.001488
Valve Value [13] = 94.575493
                                Gradient = -0.003910
Valve Value [14] = 67.174057
                                Gradient = -0.001354
Valve Value [15] = 51.877251
                                Gradient = -0.001259
Valve Value [16] = 89.178291
                                Gradient = -0.001049
Valve Value [17] = 86.137581
                                Gradient = -0.001564
Valve Value [18] = 70.325066
                                Gradient = -0.003872
Valve Value [19] = 94.529037
                                Gradient = -0.000572
Valve Value [20] = 71.858910
                                Gradient = 0.000229
Valve Value [21] = 74.012589
                                Gradient = -0.000343
```

```
Valve Value [22] = 29.985003
                                Gradient = -0.001392
Valve Value [23] = 2.837846
                                Gradient = -0.000362
Tank ID = 34
Tank Level[0] = 14.864641\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 183.121887,
Tank Level[1] = 35.531307%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 179.372940,
Tank Level[2] = 57.560158%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 210.529465,
Tank Level[3] = 68.268280%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 204.811005,
Tank Level[4] = 81.054199%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 210.417892,
Tank Level[5] = 91.802872%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 262.973358,
Tank Level[6] = 83.455498\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 281.264008,
Tank Level[7] = 68.462212%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 284.495605,
Tank Level[8] = 52.294727%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 288.600708,
Tank Level[9] = 34.635658%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 269.928711,
Tank Level[10] = 23.761053%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 193.999039,
Tank Level[11] = 40.475513%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 257.374451,
Tank Level[12] = 34.162502%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 212.162933,
Tank Level[13] = 44.277103%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 230.156952,
Tank Level[14] = 47.853573%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 236.595047,
Tank Level[15] = 49.090767\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 241.645493,
Tank Level[16] = 48.492874\%,
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 216.567078.
Tank Level[17] = 57.007229\%,
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 239.615692,
Tank Level[18] = 57.146866%,
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 254.390121.
Tank Level[19] = 51.918209%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 257.138367.
Tank Level[20] = 45.690983\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 243.100525,
Tank Level[21] = 44.564407%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 238.968140,
Tank Level[22] = 44.939335%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 166.891464,
Tank Level[23] = 71.503326\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 44.787704,
Tank Level[24] = 142.433731%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000.
Tank ID = Veeranageeri
Tank Level[0] = 27.123775\%,
                                Tank Inflow = 32.170609,
                                                                 Tank Outflow = 5.625000,
Tank Level[1] = 46.239010\%,
                                Tank Inflow = 28.142399,
                                                                 Tank Outflow = 5.625000,
Tank Level[2] = 62.453564\%,
                                Tank Inflow = 2.743193,
                                                                 Tank Outflow = 5.625000,
Tank Level[3] = 60.378403\%,
                                Tank Inflow = 17.726822,
                                                                 Tank Outflow = 5.625000,
Tank Level[4] = 69.092804\%,
                                Tank Inflow = 20.564766,
                                                                 Tank Outflow = 11.250000,
Tank Level[5] = 75.800278\%,
                                Tank Inflow = 18.997774,
                                                                 Tank Outflow = 28.125000,
Tank Level[6] = 69.227852%,
                                Tank Inflow = 53.506725,
                                                                 Tank Outflow = 56.250000,
                                                                 Tank Outflow = 70.312500,
Tank Level[7] = 67.252449\%,
                                Tank Inflow = 53.908291,
Tank Level[8] = 55.439941\%,
                                Tank Inflow = 62.270954,
                                                                 Tank Outflow = 70.312500,
Tank Level[9] = 49.649303%,
                                Tank Inflow = 57.835678,
                                                                 Tank Outflow = 56.250000,
Tank Level[10] = 50.791134\%,
                                Tank Inflow = 6.930066,
                                                                 Tank Outflow = 28.125000,
Tank Level[11] = 35.528866%,
                                Tank Inflow = 35.808388,
                                                                 Tank Outflow = 28.125000,
Tank Level[12] = 41.061600%,
                                Tank Inflow = 17.604124,
                                                                 Tank Outflow = 22.500000,
Tank Level[13] = 37.536129%,
                                Tank Inflow = 39.946663,
                                                                 Tank Outflow = 22.500000,
Tank Level[14] = 50.099297%,
                                Tank Inflow = 12.356130,
                                                                 Tank Outflow = 28.125000,
Tank Level[15] = 38.744289%,
                                Tank Inflow = 36.934361,
                                                                 Tank Outflow = 16.875000,
Tank Level[16] = 53.188835%,
                                Tank Inflow = 15.515157,
                                                                 Tank Outflow = 22.500000,
Tank Level[17] = 48.159119%,
                                Tank Inflow = 36.505348,
                                                                 Tank Outflow = 28.125000,
Tank Level[18] = 54.193729%,
                                Tank Inflow = 42.490295,
                                                                 Tank Outflow = 42.187500,
Tank Level[19] = 54.411766%,
                                Tank Inflow = 36.733356,
                                                                 Tank Outflow = 42.187500,
Tank Level[20] = 50.484291%,
                                Tank Inflow = 25.366880,
                                                                 Tank Outflow = 28.125000,
                                                                 Tank Outflow = 22.500000,
Tank Level[21] = 48.498199%,
                                Tank Inflow = 20.145212,
Tank Level[22] = 46.802536%,
                                Tank Inflow = 10.067492,
                                                                 Tank Outflow = 16.875000,
                                Tank Inflow = -2.305257,
                                                                 Tank Outflow = 11.250000,
Tank Level[23] = 41.900517%,
Tank Level[24] = 32.139511%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR mohalla2
Tank Level[0] = 42.716774\%,
                                Tank Inflow = 0.038485,
                                                                 Tank Outflow = 2.880128,
Tank Level[1] = 38.643108%,
                                Tank Inflow = 12.381027,
                                                                 Tank Outflow = 2.880004,
Tank Level[2] = 52.263386%,
                                Tank Inflow = 0.000009,
                                                                 Tank Outflow = 2.880131,
Tank Level[3] = 48.134563%,
                                Tank Inflow = 11.526095,
                                                                 Tank Outflow = 2.880128,
Tank Level[4] = 60.529064\%,
                                Tank Inflow = 8.061321,
                                                                 Tank Outflow = 5.760128,
Tank Level[5] = 63.827957%,
                                Tank Inflow = 11.031869,
                                                                 Tank Outflow = 14.400128,
Tank Level[6] = 58.999359%,
                                Tank Inflow = 24.271538,
                                                                 Tank Outflow = 28.799995,
                                Tank Inflow = 37.325062,
Tank Level[7] = 52.507549\%,
                                                                 Tank Outflow = 36.000130,
Tank Level[8] = 54.406918\%,
                                Tank Inflow = 36.194843,
                                                                 Tank Outflow = 36.000130,
```

```
Tank Level[9] = 54.686050%,
                                Tank Inflow = 25.798407,
                                                                 Tank Outflow = 28.799995,
Tank Level[10] = 50.383087%,
                                Tank Inflow = 10.404563,
                                                                 Tank Outflow = 14.400128,
Tank Level[11] = 44.655209%,
                                Tank Inflow = 6.680820,
                                                                 Tank Outflow = 14.400130,
Tank Level[12] = 33.589119%,
                                Tank Inflow = 19.109343,
                                                                 Tank Outflow = 11.520127,
Tank Level[13] = 44.468712%,
                                Tank Inflow = 14.664115,
                                                                 Tank Outflow = 11.520131,
Tank Level[14] = 48.975800%,
                                Tank Inflow = 16.284622,
                                                                 Tank Outflow = 14.400126,
Tank Level[15] = 51.677338%,
                                Tank Inflow = 7.573048,
                                                                 Tank Outflow = 8.640129,
Tank Level[16] = 50.147614%,
                                Tank Inflow = 15.557724,
                                                                 Tank Outflow = 11.520129,
Tank Level[17] = 55.935741%,
                                Tank Inflow = 9.589526,
                                                                 Tank Outflow = 14.400128,
Tank Level[18] = 49.039459\%,
                                Tank Inflow = 17.126438,
                                                                 Tank Outflow = 21.600128,
Tank Level[19] = 42.626160%,
                                Tank Inflow = 21.327326,
                                                                 Tank Outflow = 21.600128,
Tank Level[20] = 42.235081%,
                                Tank Inflow = 14.599574,
                                                                 Tank Outflow = 14.399999,
Tank Level[21] = 42.521183%,
                                Tank Inflow = 10.791723,
                                                                 Tank Outflow = 11.520131,
Tank Level[22] = 41.476967%,
                                Tank Inflow = 14.413302,
                                                                 Tank Outflow = 8.640004,
Tank Level[23] = 49.753334%,
                                Tank Inflow = 2.892638,
                                                                 Tank Outflow = 5.760129,
Tank Level[24] = 45.642612%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR Mohalla1
Tank Level[0] = 37.329845\%,
                                Tank Inflow = 26.001169,
                                                                 Tank Outflow = 11.394000,
                                Tank Inflow = 37.700802,
Tank Level[1] = 42.637360\%,
                                                                 Tank Outflow = 11.394000,
Tank Level[2] = 52.195946%,
                                Tank Inflow = 50.757927,
                                                                 Tank Outflow = 11.394000.
Tank Level[3] = 66.498840\%,
                                Tank Inflow = 66.494507,
                                                                 Tank Outflow = 11.394000.
Tank Level[4] = 86.519615\%,
                                Tank Inflow = 41.368145.
                                                                 Tank Outflow = 22.788000.
Tank Level[5] = 93.270714\%,
                                Tank Inflow = 75.747498,
                                                                 Tank Outflow = 56.970001.
Tank Level[6] = 100.093529\%,
                                Tank Inflow = 84.217651.
                                                                 Tank Outflow = 113.940002.
                                                                 Tank Outflow = 142.425003,
Tank Level[7] = 89.293900%,
                                Tank Inflow = 85.813133.
Tank Level[8] = 68.723961%,
                                Tank Inflow = 78.220573,
                                                                 Tank Outflow = 142.425003.
Tank Level[9] = 45.395271\%,
                                Tank Inflow = 75.882034,
                                                                 Tank Outflow = 113.940002.
Tank Level[10] = 31.566898%,
                                Tank Inflow = 35.792835,
                                                                 Tank Outflow = 56.970001,
Tank Level[11] = 23.872171%,
                                Tank Inflow = 65.754959,
                                                                 Tank Outflow = 56.970001,
                                                                 Tank Outflow = 45.576000,
Tank Level[12] = 27.064190\%,
                                Tank Inflow = 56.435699,
Tank Level[13] = 31.010061%,
                                Tank Inflow = 79.911446,
                                                                 Tank Outflow = 45.576000,
Tank Level[14] = 43.485851%,
                                Tank Inflow = 50.889439,
                                                                 Tank Outflow = 56.970001,
Tank Level[15] = 41.276482%,
                                Tank Inflow = 44.304218,
                                                                 Tank Outflow = 34.181999,
Tank Level[16] = 44.954391%,
                                Tank Inflow = 73.620338,
                                                                 Tank Outflow = 45.576000,
Tank Level[17] = 55.144310%,
                                Tank Inflow = 76.548195,
                                                                 Tank Outflow = 56.970001,
Tank Level[18] = 62.258049\%,
                                Tank Inflow = 53.198513,
                                                                 Tank Outflow = 85.455002,
Tank Level[19] = 50.537647\%,
                                Tank Inflow = 73.189163,
                                                                 Tank Outflow = 85.455002,
Tank Level[20] = 46.080853%,
                                Tank Inflow = 57.232655,
                                                                 Tank Outflow = 56.970001,
Tank Level[21] = 46.176289%,
                                Tank Inflow = 63.189346,
                                                                 Tank Outflow = 45.576000,
Tank Level[22] = 52.576103%,
                                Tank Inflow = 15.566216,
                                                                 Tank Outflow = 34.181999,
Tank Level[23] = 45.812054%,
                                Tank Inflow = -0.054787,
                                                                 Tank Outflow = 22.788000,
Tank Level[24] = 37.512119%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = Rajiv_nagar_II
Tank Level[0] = 34.698402\%,
                                Tank Inflow = 76.352715,
                                                                 Tank Outflow = 15.966128,
Tank Level[1] = 49.433121\%,
                                Tank Inflow = 51.539837,
                                                                 Tank Outflow = 15.966000,
Tank Level[2] = 58.113373%,
                                Tank Inflow = 121.441536,
                                                                 Tank Outflow = 15.966128,
Tank Level[3] = 83.850067%,
                                Tank Inflow = 82.594139,
                                                                 Tank Outflow = 15.966128,
                                                                 Tank Outflow = 31.932129,
Tank Level[4] = 100.107735%,
                                Tank Inflow = 87.083199,
Tank Level[5] = 113.564957\%,
                                Tank Inflow = 130.161255,
                                                                 Tank Outflow = 79.830132,
Tank Level[6] = 125.846085%,
                                Tank Inflow = 74.654938,
                                                                 Tank Outflow = 159.660004,
                                Tank Inflow = 75.237160,
                                                                 Tank Outflow = 199.575119,
Tank Level[7] = 105.104286%,
Tank Level[8] = 74.765007\%,
                                Tank Inflow = 69.285843,
                                                                 Tank Outflow = 199.575119,
Tank Level[9] = 42.973572%,
                                Tank Inflow = 64.611259,
                                                                 Tank Outflow = 159.660004,
Tank Level[10] = 19.781055%,
                                Tank Inflow = 84.608772,
                                                                 Tank Outflow = 79.830132,
Tank Level[11] = 20.947077%,
                                Tank Inflow = 98.127617,
                                                                 Tank Outflow = 79.830132,
Tank Level[12] = 25.411783%,
                                Tank Inflow = 94.512581,
                                                                 Tank Outflow = 63.864128,
                                Tank Inflow = 74.495064,
                                                                 Tank Outflow = 63.864128,
Tank Level[13] = 32.890205%,
                                Tank Inflow = 93.445175,
                                                                 Tank Outflow = 79.830132,
Tank Level[14] = 35.484222%,
Tank Level[15] = 38.806385%,
                                Tank Inflow = 97.498680,
                                                                 Tank Outflow = 47.898129,
Tank Level[16] = 50.909245%,
                                Tank Inflow = 84.078697,
                                                                 Tank Outflow = 63.864128,
Tank Level[17] = 55.841736%,
                                Tank Inflow = 94.276756,
                                                                 Tank Outflow = 79.830132,
Tank Level[18] = 59.366802%,
                                Tank Inflow = 91.000130,
                                                                 Tank Outflow = 119.745132,
Tank Level[19] = 52.352840%,
                                Tank Inflow = 89.986183,
                                                                 Tank Outflow = 119.745132,
                                Tank Inflow = 108.637138,
                                                                 Tank Outflow = 79.830002,
Tank Level[20] = 45.091461%,
Tank Level[21] = 52.120594%,
                                Tank Inflow = 100.422173,
                                                                 Tank Outflow = 63.864128,
Tank Level[22] = 61.040993%,
                                Tank Inflow = 91.450905,
                                                                 Tank Outflow = 47.897999,
```

```
Tank Level[23] = 71.668190%,
                                 Tank Inflow = 44.255146,
                                                                 Tank Outflow = 31.932127,
Tank Level[24] = 74.675087%,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = Tippu Park
Tank Level[0] = 32.698193\%,
                                 Tank Inflow = 48.558914,
                                                                 Tank Outflow = 7.470129,
                                 Tank Inflow = 49.609188,
                                                                 Tank Outflow = 7.469999,
Tank Level[1] = 47.627808\%,
                                 Tank Inflow = 35.586765,
                                                                 Tank Outflow = 7.470129,
Tank Level[2] = 62.939091\%,
                                 Tank Inflow = 26.469427,
                                                                 Tank Outflow = 7.470129,
Tank Level[3] = 73.155281\%,
                                 Tank Inflow = 53.340179,
                                                                 Tank Outflow = 14.940128,
Tank Level[4] = 80.058678\%,
Tank Level[5] = 94.011337\%,
                                 Tank Inflow = 27.035160,
                                                                 Tank Outflow = 37.350128,
Tank Level[6] = 90.263390\%,
                                 Tank Inflow = 44.612991,
                                                                 Tank Outflow = 74.699997,
Tank Level[7] = 79.331276\%,
                                 Tank Inflow = 32.212132,
                                                                 Tank Outflow = 93.375130,
Tank Level[8] = 57.107685\%,
                                 Tank Inflow = 42.628597,
                                                                 Tank Outflow = 93.375130,
Tank Level[9] = 38.668922%,
                                 Tank Inflow = 45.801708,
                                                                 Tank Outflow = 74.699997,
Tank Level[10] = 28.168720%,
                                 Tank Inflow = 56.262325,
                                                                 Tank Outflow = 37.350128,
Tank Level[11] = 35.040474%,
                                 Tank Inflow = 51.002735,
                                                                 Tank Outflow = 37.350128,
Tank Level[12] = 40.001152\%,
                                 Tank Inflow = 24.501436,
                                                                 Tank Outflow = 29.880129,
Tank Level[13] = 38.046803%,
                                 Tank Inflow = 21.139984,
                                                                 Tank Outflow = 29.880127,
Tank Level[14] = 34.871071%,
                                 Tank Inflow = 63.619576,
                                                                 Tank Outflow = 37.350128,
Tank Level[15] = 44.416080%,
                                 Tank Inflow = 55.335331,
                                                                 Tank Outflow = 22.410130,
Tank Level[16] = 56.379456%,
                                 Tank Inflow = 27.794830,
                                                                 Tank Outflow = 29.880129.
Tank Level[17] = 55.621761%,
                                 Tank Inflow = 22.696049,
                                                                 Tank Outflow = 37.350128,
Tank Level[18] = 50.297203%,
                                 Tank Inflow = 50.574490,
                                                                 Tank Outflow = 56.025131,
Tank Level[19] = 48.316708%,
                                 Tank Inflow = 35.902386,
                                                                 Tank Outflow = 56.025131,
Tank Level[20] = 41.005108%,
                                 Tank Inflow = 37.263603,
                                                                 Tank Outflow = 37.349998,
Tank Level[21] = 40.973713%,
                                 Tank Inflow = 44.419556,
                                                                 Tank Outflow = 29.880127,
Tank Level[22] = 46.256618%,
                                 Tank Inflow = 35.393333,
                                                                 Tank Outflow = 22.410000,
Tank Level[23] = 50.974117%,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 14.940128,
Tank Level[24] = 45.545616%,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
```

Solution 2

```
Iteration Count = 749100
                                                                Percentage Difference = 0.000000 Gradient
                               Function Value = 35.470587
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749200
                                                                Percentage Difference = 0.000000 Gradient
                               Function Value = 35.470587
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749300
                               Function Value = 35.470587
                                                                Percentage Difference = 0.000000 Gradient
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749400
                               Function Value = 35.470587
                                                                Percentage Difference = 0.000000 Gradient
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749500
                               Function Value = 35.470587
                                                                Percentage Difference = 0.000000 Gradient
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749600
                               Function Value = 35.470587
                                                                Percentage Difference = 0.000000 Gradient
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749700
                                                                Percentage Difference = 0.000000 Gradient
                               Function Value = 35.470587
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 749800
                                                                Percentage Difference = 0.000000 Gradient
                               Function Value = 35.470587
Norm = 4613.250977 alpha mult = 0.000037
                                                                Percentage Difference = 0.000000 Gradient
Iteration Count = 749900
                               Function Value = 35.470587
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 750000
                               Function Value = 35.470587
                                                                Percentage Difference = 0.000000 Gradient
Norm = 4613.250977 alpha mult = 0.000037
Iteration Count = 750001
```

```
Valve ID = 80

Valve Value [0] = 0.000000 Gradient = 0.001984

Valve Value [1] = 0.000000 Gradient = 0.001984

Valve Value [2] = 0.000000 Gradient = 0.001984
```

```
Valve Value [3] = 0.000000
                                Gradient = 0.001984
Valve Value [4] = 0.000000
                                Gradient = 0.001984
Valve Value [5] = 0.000000
                                Gradient = 0.001984
Valve Value [6] = 0.000000
                                Gradient = 0.001984
Valve Value [7] = 0.000000
                                Gradient = 0.001984
Valve Value [8] = 0.000000
                                Gradient = 0.001984
Valve Value [9] = 0.000000
                                Gradient = 0.001984
Valve Value [10] = 0.000000
                                Gradient = 0.001984
Valve Value [11] = 0.000000
                                Gradient = 0.001984
Valve Value [12] = 0.000000
                                Gradient = 0.001984
Valve Value [13] = 0.000000
                                Gradient = 0.001984
Valve Value [14] = 0.000000
                                Gradient = 0.001984
Valve Value [15] = 0.000000
                                Gradient = 0.001984
Valve Value [16] = 0.000000
                                Gradient = 0.001984
Valve Value [17] = 0.000000
                                Gradient = 0.001984
Valve Value [18] = 0.000000
                                Gradient = 0.001984
Valve Value [19] = 0.000000
                                Gradient = 0.001984
Valve Value [20] = 0.000000
                                Gradient = 0.001984
Valve Value [21] = 0.000000
                                Gradient = 0.001984
Valve Value [22] = 0.000000
                                Gradient = 0.001984
Valve Value [23] = 0.000000
                                Gradient = 0.001984
Valve ID = 78
Valve Value [0] = 24.928453
                                Gradient = 0.003624
Valve Value [1] = 19.336332
                                Gradient = 0.003357
Valve Value [2] = 34.698624
                                Gradient = 0.003891
Valve Value [3] = 4.020651
                                Gradient = 0.002193
Valve Value [4] = 2.268656
                                Gradient = -0.001316
Valve Value [5] = 30.301285
                                Gradient = 0.003986
Valve Value [6] = 59.529968
                                Gradient = 0.004005
Valve Value [7] = 71.580002
                                Gradient = -0.001850
Valve Value [8] = 59.720909
                                Gradient = 0.000858
Valve Value [9] = 30.057465
                                Gradient = -0.000362
Valve Value [10] = 38.223431
                                Gradient = -0.001221
Valve Value [11] = 18.434526
                                Gradient = -0.000591
Valve Value [12] = 39.847473
                                Gradient = -0.005684
Valve Value [13] = 19.944691
                                Gradient = -0.001049
Valve Value [14] = 26.717539
                                Gradient = -0.001507
Valve Value [15] = 15.888476
                                Gradient = -0.007706
Valve Value [16] = 35.285873
                                Gradient = -0.007229
Valve Value [17] = 14.763331
                                Gradient = -0.001507
Valve Value [18] = 39.979183
                                Gradient = -0.001793
Valve Value [19] = 44.514126
                                Gradient = -0.000191
Valve Value [20] = 27.907585
                                Gradient = -0.000229
Valve Value [21] = 26.188911
                                Gradient = -0.000286
Valve Value [22] = 8.269578
                                Gradient = 0.000191
Valve Value [23] = 0.000000
                                Gradient = 0.002003
Valve ID = 76
Valve Value [0] = 0.000000
                                Gradient = 67.920914
                                Gradient = 0.002251
Valve Value [1] = 10.567946
Valve Value [2] = 6.836905
                                Gradient = 0.001488
Valve Value [3] = 2.878488
                                Gradient = 0.001068
Valve Value [4] = 11.051141
                                Gradient = -0.003414
Valve Value [5] = 14.582310
                                Gradient = 0.000935
Valve Value [6] = 20.154333
                                Gradient = -0.000954
Valve Value [7] = 29.857851
                                Gradient = 0.000935
Valve Value [8] = 36.137074
                                Gradient = -0.000114
Valve Value [9] = 29.184752
                                Gradient = 0.000343
Valve Value [10] = 18.016903
                                Gradient = 0.000935
Valve Value [11] = 13.848680
                                Gradient = -0.000229
Valve Value [12] = 7.726432
                                Gradient = -0.006371
Valve Value [13] = 11.154258
                                Gradient = -0.000134
Valve Value [14] = 23.000542
                                Gradient = 0.001488
Valve Value [15] = 2.703969
                                Gradient = -0.000420
Valve Value [16] = 17.772474
                                Gradient = 0.000629
```

```
Valve Value [17] = 16.384771
                                Gradient = 0.000877
Valve Value [18] = 16.605249
                                Gradient = 0.000057
Valve Value [19] = 21.370857
                                Gradient = 0.000267
Valve Value [20] = 13.222860
                                Gradient = 0.000401
Valve Value [21] = 6.638897
                                Gradient = 0.001087
Valve Value [22] = 5.979450
                                Gradient = -0.000648
Valve Value [23] = 12.039927
                                Gradient = -0.000706
Valve ID = 74
Valve Value [0] = 30.124208
                                Gradient = 0.000381
Valve Value [1] = 43.867092
                                Gradient = -0.000820
Valve Value [2] = 49.624832
                                Gradient = -0.002956
Valve Value [3] = 59.539944
                                Gradient = -0.000286
Valve Value [4] = 35.575695
                                Gradient = -0.004921
Valve Value [5] = 81.938179
                                Gradient = -0.000458
Valve Value [6] = 78.551430
                                Gradient = 0.003643
Valve Value [7] = 75.851181
                                Gradient = 0.004005
Valve Value [8] = 84.041161
                                Gradient = 0.000134
Valve Value [9] = 91.356300
                                Gradient = -0.000458
Valve Value [10] = 37.282803
                                Gradient = -0.000210
Valve Value [11] = 70.732254
                                Gradient = 0.000172
Valve Value [12] = 52.109550
                                Gradient = -0.005188
Valve Value [13] = 62.718033
                                Gradient = 0.000229
Valve Value [14] = 71.325272
                                Gradient = 0.000076
Valve Value [15] = 52.936562
                                Gradient = -0.000286
Valve Value [16] = 56.367813
                                Gradient = -0.000820
Valve Value [17] = 67.471085
                                Gradient = -0.000019
Valve Value [18] = 69.143890
                                Gradient = 0.000401
Valve Value [19] = 70.746979
                                Gradient = -0.000038
Valve Value [20] = 60.186275
                                Gradient = -0.000305
Valve Value [21] = 53.778778
                                Gradient = -0.000668
Valve Value [22] = 26.027887
                                Gradient = 0.000324
Valve Value [23] = 5.575452
                                Gradient = 0.003185
Valve ID = 72
Valve Value [0] = 108.108025
                                Gradient = 0.003109
Valve Value [1] = 56.631481
                                Gradient = 0.002174
Valve Value [2] = 75.783890
                                Gradient = 0.001869
Valve Value [3] = 117.535347
                                Gradient = 0.002041
Valve Value [4] = 85.860817
                                Gradient = 0.000038
Valve Value [5] = 98.044678
                                Gradient = -0.001297
Valve Value [6] = 80.318779
                                Gradient = 0.002041
Valve Value [7] = 84.831268
                                Gradient = -0.001488
Valve Value [8] = 74.339317
                                Gradient = -0.002041
Valve Value [9] = 71.198776
                                Gradient = -0.002308
Valve Value [10] = 78.303162
                                Gradient = 0.001545
Valve Value [11] = 102.362434
                                Gradient = -0.002670
Valve Value [12] = 91.275414
                                Gradient = -0.002995
Valve Value [13] = 92.508827
                                Gradient = -0.002937
Valve Value [14] = 77.714775
                                Gradient = 0.000725
Valve Value [15] = 100.316978
                                Gradient = -0.003662
Valve Value [16] = 87.943352
                                Gradient = -0.003757
Valve Value [17] = 92.424072
                                Gradient = 0.000553
Valve Value [18] = 89.682938
                                Gradient = 0.001049
Valve Value [19] = 89.937050
                                Gradient = 0.000172
Valve Value [20] = 89.910110
                                Gradient = -0.000191
Valve Value [21] = 85.346878
                                Gradient = -0.000458
Valve Value [22] = 72.561005
                                Gradient = -0.000534
Valve Value [23] = 52.639755
                                Gradient = -0.000248
Valve ID = 40
Valve Value [0] = 22.333452
                                Gradient = -0.000076
Valve Value [1] = 68.650627
                                Gradient = -0.000706
Valve Value [2] = 29.557554
                                Gradient = -0.000401
```

Gradient = -0.000172

```
Valve Value [4] = 84.306641
                                Gradient = -0.002975
Valve Value [5] = 19.155258
                                Gradient = 0.003414
Valve Value [6] = 26.808872
                                Gradient = 0.000896
Valve Value [7] = 9.991073
                                Gradient = -0.005035
Valve Value [8] = 32.253716
                                Gradient = -0.001202
Valve Value [9] = 50.504692
                                Gradient = -0.000248
Valve Value [10] = 76.840904
                                Gradient = -0.000343
Valve Value [11] = 26.240366
                                Gradient = -0.000515
Valve Value [12] = 22.639416
                                Gradient = -0.005646
Valve Value [13] = 56.923992
                                Gradient = -0.000362
Valve Value [14] = 41.570683
                                Gradient = -0.000420
Valve Value [15] = 35.588596
                                Gradient = -0.006046
Valve Value [16] = 40.600574
                                Gradient = -0.005970
Valve Value [17] = 47.701012
                                Gradient = -0.000248
Valve Value [18] = 32.391598
                                Gradient = -0.001106
Valve Value [19] = 34.209415
                                Gradient = -0.000725
Valve Value [20] = 44.243881
                                Gradient = -0.000648
Valve Value [21] = 39.746376
                                Gradient = -0.000763
Valve Value [22] = 26.669035
                                Gradient = -0.000210
Valve Value [23] = 17.875872
                                Gradient = 0.001469
Valve ID = 6
Valve Value [0] = 185.586502
                                Gradient = 0.003948
Valve Value [1] = 199.137894
                                Gradient = 0.003796
Valve Value [2] = 196.492233
                                Gradient = 0.003548
Valve Value [3] = 237.410019
                                Gradient = 0.003281
Valve Value [4] = 223.449860
                                Gradient = 0.004005
Valve Value [5] = 265.081543
                                Gradient = 0.004482
Valve Value [6] = 264.053162
                                Gradient = 0.002213
Valve Value [7] = 273.924530
                                Gradient = 0.004768
Valve Value [8] = 305.200806
                                Gradient = 0.005760
Valve Value [9] = 274.112305
                                Gradient = 0.004768
Valve Value [10] = 248.644073
                                Gradient = 0.000305
Valve Value [11] = 232.995193
                                Gradient = 0.004005
Valve Value [12] = 225.819427
                                Gradient = 0.004025
Valve Value [13] = 248.401840
                                Gradient = 0.004005
Valve Value [14] = 240.318542
                                Gradient = 0.000172
Valve Value [15] = 224.744186
                                Gradient = 0.004005
Valve Value [16] = 238.368851
                                Gradient = 0.003986
Valve Value [17] = 238.729904
                                Gradient = -0.000439
Valve Value [18] = 247.771347
                                Gradient = -0.001411
Valve Value [19] = 260.755615
                                Gradient = -0.000534
Valve Value [20] = 235.450027
                                Gradient = -0.001030
Valve Value [21] = 211.682312
                                Gradient = -0.001221
Valve Value [22] = 139.473434
                                Gradient = -0.001125
Valve Value [23] = 88.052925
                                Gradient = 0.000896
Valve ID = 3
Valve Value [0] = 77.386002
                                Gradient = 0.003510
                                Gradient = 0.003967
Valve Value [1] = 146.068802
Valve Value [2] = 120.647110
                                Gradient = 0.003090
Valve Value [3] = 119.836151
                                Gradient = 0.002384
Valve Value [4] = 138.312057
                                Gradient = 0.004025
Valve Value [5] = 138.195709
                                Gradient = -0.001717
Valve Value [6] = 183.744492
                                Gradient = 0.000687
Valve Value [7] = 195.565277
                                Gradient = 0.003986
Valve Value [8] = 212.130844
                                Gradient = -0.000401
Valve Value [9] = 201.098618
                                Gradient = -0.000877
Valve Value [10] = 176.169144
                                Gradient = 0.004005
Valve Value [11] = 129.238327
                                Gradient = -0.001335
Valve Value [12] = 137.187271
                                Gradient = 0.004025
                                Gradient = -0.001488
Valve Value [13] = 150.728180
Valve Value [14] = 162.626587
                                Gradient = -0.000477
Valve Value [15] = 135.094238
                                Gradient = 0.004005
Valve Value [16] = 158.077576
                                Gradient = 0.004044
```

Valve Value [3] = 53.390251

```
Valve Value [17] = 146.325882
                               Gradient = -0.000954
Valve Value [18] = 164.366882
                                Gradient = 0.004005
Valve Value [19] = 170.832230
                                Gradient = -0.000610
Valve Value [20] = 145.550018
                                Gradient = -0.000782
Valve Value [21] = 126.344040
                                Gradient = -0.000763
Valve Value [22] = 66.918709
                                Gradient = -0.000553
Valve Value [23] = 35.397251
                                Gradient = 0.001106
Valve ID = 5
Valve Value [0] = 30.124161
                                Gradient = 0.000324
Valve Value [1] = 54.463554
                                Gradient = 0.001297
Valve Value [2] = 60.460739
                                Gradient = 0.004005
Valve Value [3] = 62.433323
                                Gradient = 0.000763
Valve Value [4] = 57.392662
                                Gradient = 0.004025
Valve Value [5] = 96.601746
                                Gradient = 0.003681
Valve Value [6] = 98.627632
                                Gradient = 0.002193
Valve Value [7] = 104.308601
                                Gradient = -0.004826
Valve Value [8] = 120.172554
                                Gradient = -0.000038
Valve Value [9] = 120.543449
                                Gradient = -0.000229
Valve Value [10] = 55.313992
                                Gradient = 0.000744
Valve Value [11] = 84.571587
                                Gradient = -0.000172
Valve Value [12] = 76.140671
                                Gradient = 0.003986
Valve Value [13] = 73.864723
                                Gradient = -0.000019
Valve Value [14] = 94.365479
                                Gradient = 0.001755
Valve Value [15] = 55.634163
                                Gradient = -0.000763
Valve Value [16] = 74.145523
                                Gradient = -0.000248
Valve Value [17] = 83.883385
                                Gradient = 0.001163
Valve Value [18] = 85.752861
                                Gradient = 0.000648
Valve Value [19] = 92.128853
                                Gradient = 0.000553
Valve Value [20] = 73.422569
                                Gradient = 0.000496
Valve Value [21] = 60.442165
                                Gradient = 0.000782
Valve Value [22] = 31.997614
                                Gradient = -0.000210
Valve Value [23] = 17.583668
                                Gradient = 0.001659
Tank ID = 34
Tank Level[0] = 21.661858\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 185.494217,
Tank Level[1] = 41.466541\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 199.054001,
Tank Level[2] = 56.344273\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 196.431061,
Tank Level[3] = 72.175056\%,
                                Tank Inflow = 240.0000000,
                                                                 Tank Outflow = 237.365128,
Tank Level[4] = 73.132439\%,
                                Tank Inflow = 240.0000000,
                                                                 Tank Outflow = 219.063400,
Tank Level[5] = 80.739754\%,
                                Tank Inflow = 240.0000000,
                                                                 Tank Outflow = 236.240372,
Tank Level[6] = 82.105812\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 264.053192,
Tank Level[7] = 73.366081\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 270.711304,
Tank Level[8] = 62.207130\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 286.470062,
Tank Level[9] = 45.322227\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 272.297455,
Tank Level[10] = 33.586941%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 248.644089,
Tank Level[11] = 30.446112%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 231.600754,
Tank Level[12] = 33.497978%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 213.598618,
Tank Level[13] = 43.090923\%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 243.237091,
Tank Level[14] = 41.914726%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 240.318558,
Tank Level[15] = 41.798977%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 207.428406,
                                                                 Tank Outflow = 237.970444,
Tank Level[16] = 53.633873%,
                                Tank Inflow = 240.000000,
Tank Level[17] = 54.371307%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 238.729919,
Tank Level[18] = 54.832790%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 247.771362,
Tank Level[19] = 52.009064%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 260.755646,
Tank Level[20] = 44.467495%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 235.450043,
Tank Level[21] = 46.120728%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 211.682327,
Tank Level[22] = 56.409958%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 139.473450,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 88.037254,
Tank Level[23] = 92.936287%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank Level[24] = 148.151962%,
Tank ID = Veeranageeri
Tank Level[0] = 30.674812\%,
                                Tank Inflow = 24.928299,
                                                                 Tank Outflow = 5.625000,
Tank Level[1] = 44.574928\%,
                                Tank Inflow = 19.336367,
                                                                 Tank Outflow = 5.625000,
Tank Level[2] = 54.448349\%,
                                Tank Inflow = 34.627594,
                                                                 Tank Outflow = 5.625000,
Tank Level[3] = 75.332840\%,
                                Tank Inflow = 4.020687,
                                                                 Tank Outflow = 5.625000,
```

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Tank Level[4] = 74.177582\%,
                                Tank Inflow = 2.268691,
                                                                 Tank Outflow = 11.250000,
Tank Level[5] = 67.710228\%,
                                Tank Inflow = 22.519875,
                                                                 Tank Outflow = 28.125000,
Tank Level[6] = 63.674030%,
                                Tank Inflow = 58.308060,
                                                                 Tank Outflow = 56.250000,
Tank Level[7] = 65.156021%,
                                Tank Inflow = 71.580032,
                                                                 Tank Outflow = 70.312500,
Tank Level[8] = 66.068756%,
                                Tank Inflow = 59.704689,
                                                                 Tank Outflow = 70.312500,
Tank Level[9] = 58.430180%,
                                Tank Inflow = 30.052860,
                                                                 Tank Outflow = 56.250000,
Tank Level[10] = 39.565876%,
                                Tank Inflow = 38.223450,
                                                                 Tank Outflow = 28.125000,
Tank Level[11] = 46.837669%,
                                Tank Inflow = 18.426439,
                                                                 Tank Outflow = 28.125000,
Tank Level[12] = 39.853828%,
                                Tank Inflow = 39.847507,
                                                                 Tank Outflow = 22.500000,
Tank Level[13] = 52.345600%,
                                Tank Inflow = 19.939667,
                                                                 Tank Outflow = 22.500000,
Tank Level[14] = 50.501926\%,
                                Tank Inflow = 26.717556,
                                                                 Tank Outflow = 28.125000,
Tank Level[15] = 49.488438%,
                                Tank Inflow = 15.888512,
                                                                 Tank Outflow = 16.875000,
Tank Level[16] = 48.778076%,
                                Tank Inflow = 35.285908,
                                                                 Tank Outflow = 22.500000,
Tank Level[17] = 57.985085%,
                                Tank Inflow = 14.763350,
                                                                 Tank Outflow = 28.125000,
Tank Level[18] = 48.363491%,
                                Tank Inflow = 39.979202,
                                                                 Tank Outflow = 42.187500,
Tank Level[19] = 46.773319%,
                                Tank Inflow = 44.504917,
                                                                 Tank Outflow = 42.187500,
Tank Level[20] = 48.442066%,
                                Tank Inflow = 27.897100,
                                                                 Tank Outflow = 28.125000,
Tank Level[21] = 48.277958%,
                                Tank Inflow = 26.179701,
                                                                 Tank Outflow = 22.500000,
Tank Level[22] = 50.927673%,
                                Tank Inflow = 8.251949,
                                                                 Tank Outflow = 16.875000,
Tank Level[23] = 44.718300%,
                                Tank Inflow = -0.062170,
                                                                 Tank Outflow = 11.250000,
Tank Level[24] = 36.572517\%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR mohalla2
Tank Level[0] = 44.264343\%,
                                Tank Inflow = 0.000005.
                                                                 Tank Outflow = 2.880131.
Tank Level[1] = 40.135509\%,
                                Tank Inflow = 10.567990,
                                                                 Tank Outflow = 2.880128.
Tank Level[2] = 51.156513%,
                                Tank Inflow = 6.836914,
                                                                 Tank Outflow = 2.880004.
Tank Level[3] = 56.828976%,
                                Tank Inflow = 2.878531,
                                                                 Tank Outflow = 2.880129.
Tank Level[4] = 56.826687%,
                                Tank Inflow = 11.051185,
                                                                 Tank Outflow = 5.760131.
                                                                 Tank Outflow = 14.400128,
Tank Level[5] = 64.411728\%,
                                Tank Inflow = 14.582317,
Tank Level[6] = 64.672905%,
                                Tank Inflow = 20.154337,
                                                                 Tank Outflow = 28.800129,
Tank Level[7] = 52.278652%,
                                Tank Inflow = 29.857855,
                                                                 Tank Outflow = 36.000130,
Tank Level[8] = 43.473335\%,
                                Tank Inflow = 36.137074,
                                                                 Tank Outflow = 36.000130,
Tank Level[9] = 43.669655%,
                                Tank Inflow = 29.184757,
                                                                 Tank Outflow = 28.800129,
Tank Level[10] = 44.221039%,
                                Tank Inflow = 18.016928,
                                                                 Tank Outflow = 14.399999,
Tank Level[11] = 49.406120%,
                                Tank Inflow = 13.848685,
                                                                 Tank Outflow = 14.400130,
Tank Level[12] = 48.615593%,
                                Tank Inflow = 7.726476,
                                                                 Tank Outflow = 11.520131,
Tank Level[13] = 43.177162%,
                                Tank Inflow = 11.154263,
                                                                 Tank Outflow = 11.520131,
Tank Level[14] = 42.652668%,
                                Tank Inflow = 23.000566,
                                                                 Tank Outflow = 14.400003,
Tank Level[15] = 54.982086%,
                                Tank Inflow = 2.703975,
                                                                 Tank Outflow = 8.640131,
Tank Level[16] = 46.472252%,
                                Tank Inflow = 17.772516,
                                                                 Tank Outflow = 11.520001,
Tank Level[17] = 55.435604%,
                                Tank Inflow = 16.384798,
                                                                 Tank Outflow = 14.400003,
Tank Level[18] = 58.280926%,
                                Tank Inflow = 16.605274,
                                                                 Tank Outflow = 21.599998,
Tank Level[19] = 51.120689%,
                                Tank Inflow = 21.370865,
                                                                 Tank Outflow = 21.600004,
Tank Level[20] = 50.792202%,
                                Tank Inflow = 13.222869,
                                                                 Tank Outflow = 14.400128,
Tank Level[21] = 49.104534%,
                                Tank Inflow = 6.638906,
                                                                 Tank Outflow = 11.520129,
Tank Level[22] = 42.107010%,
                                Tank Inflow = 5.979455,
                                                                 Tank Outflow = 8.640129,
Tank Level[23] = 38.292778%,
                                Tank Inflow = 12.039931,
                                                                 Tank Outflow = 5.760129,
Tank Level[24] = 47.295242\%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR Mohalla1
Tank Level[0] = 39.178192\%,
                                Tank Inflow = 30.124157,
                                                                 Tank Outflow = 11.394000,
                                Tank Inflow = 43.867130,
Tank Level[1] = 45.983799%,
                                                                 Tank Outflow = 11.394000,
                                                                 Tank Outflow = 11.394000,
Tank Level[2] = 57.782917%,
                                Tank Inflow = 49.624836,
Tank Level[3] = 71.674103%,
                                Tank Inflow = 59.539982,
                                                                 Tank Outflow = 11.394000,
Tank Level[4] = 89.167946%,
                                Tank Inflow = 35.575733,
                                                                 Tank Outflow = 22.788000,
Tank Level[5] = 93.814377%,
                                Tank Inflow = 81.938179,
                                                                 Tank Outflow = 56.970001,
Tank Level[6] = 102.886566%,
                                Tank Inflow = 78.473206,
                                                                 Tank Outflow = 113.940002,
Tank Level[7] = 89.999695%,
                                Tank Inflow = 74.450684,
                                                                 Tank Outflow = 142.425003,
                                Tank Inflow = 84.035713,
                                                                 Tank Outflow = 142.425003,
Tank Level[8] = 65.301208\%,
Tank Level[9] = 44.085449\%,
                                Tank Inflow = 91.356300,
                                                                 Tank Outflow = 113.940002,
Tank Level[10] = 35.879654%,
                                Tank Inflow = 37.282825,
                                                                 Tank Outflow = 56.970001,
Tank Level[11] = 28.726313%,
                                Tank Inflow = 70.723106,
                                                                 Tank Outflow = 56.970001,
Tank Level[12] = 33.723503%,
                                Tank Inflow = 52.109589,
                                                                 Tank Outflow = 45.576000,
                                Tank Inflow = 62.710499,
                                                                 Tank Outflow = 45.576000,
Tank Level[13] = 36.097488%,
                                Tank Inflow = 71.325294,
                                                                 Tank Outflow = 56.970001,
Tank Level[14] = 42.323311%,
Tank Level[15] = 47.539310%,
                                Tank Inflow = 52.930199,
                                                                 Tank Outflow = 34.181999,
                                Tank Inflow = 56.367851,
Tank Level[16] = 54.351467%,
                                                                 Tank Outflow = 45.576000,
Tank Level[17] = 58.272690%,
                                Tank Inflow = 67.471107,
                                                                 Tank Outflow = 56.970001,
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Tank Level[18] = 62.088264%,
                                 Tank Inflow = 69.143913,
                                                                  Tank Outflow = 85.455002,
Tank Level[19] = 56.161625%,
                                 Tank Inflow = 70.746979,
                                                                  Tank Outflow = 85.455002,
Tank Level[20] = 50.817463%,
                                 Tank Inflow = 60.186279,
                                                                 Tank Outflow = 56.970001,
Tank Level[21] = 51.986099%,
                                 Tank Inflow = 53.778782,
                                                                 Tank Outflow = 45.576000,
Tank Level[22] = 54.966583%,
                                 Tank Inflow = 26.018021,
                                                                 Tank Outflow = 34.181999,
Tank Level[23] = 52.000198%,
                                 Tank Inflow = 5.543802,
                                                                 Tank Outflow = 22.788000,
Tank Level[24] = 45.734516%,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = Rajiv nagar II
Tank Level[0] = 37.540062\%,
                                 Tank Inflow = 108.108040,
                                                                  Tank Outflow = 15.966128,
Tank Level[1] = 60.023293\%,
                                 Tank Inflow = 56.631496,
                                                                  Tank Outflow = 15.966128,
Tank Level[2] = 69.945908%,
                                 Tank Inflow = 75.783905,
                                                                  Tank Outflow = 15.966000,
Tank Level[3] = 84.541870%,
                                 Tank Inflow = 117.535362,
                                                                 Tank Outflow = 15.966128,
Tank Level[4] = 109.325432%,
                                 Tank Inflow = 85.860832,
                                                                 Tank Outflow = 31.932129,
Tank Level[5] = 122.484383%,
                                 Tank Inflow = 98.044693,
                                                                 Tank Outflow = 79.830132,
Tank Level[6] = 126.928848%,
                                 Tank Inflow = 80.308670,
                                                                 Tank Outflow = 159.660126,
Tank Level[7] = 107.566582%,
                                 Tank Inflow = 84.831284,
                                                                 Tank Outflow = 199.575119,
Tank Level[8] = 79.568321\%,
                                 Tank Inflow = 74.339333,
                                                                 Tank Outflow = 199.575119,
Tank Level[9] = 49.009972\%,
                                 Tank Inflow = 71.198792,
                                                                 Tank Outflow = 159.660126,
Tank Level[10] = 27.424822\%,
                                 Tank Inflow = 78.279716,
                                                                 Tank Outflow = 79.830002,
Tank Level[11] = 27.046543\%.
                                 Tank Inflow = 102.362450.
                                                                 Tank Outflow = 79.830132.
Tank Level[12] = 32.544579%.
                                 Tank Inflow = 91.275429.
                                                                 Tank Outflow = 63.864128.
Tank Level[13] = 39.233112\%.
                                 Tank Inflow = 92.508842.
                                                                 Tank Outflow = 63.864128.
Tank Level[14] = 46.222614%.
                                 Tank Inflow = 77.704750.
                                                                 Tank Outflow = 79.830002.
Tank Level[15] = 45.704037%.
                                 Tank Inflow = 100.316994.
                                                                 Tank Outflow = 47.898129.
Tank Level[16] = 58.494579%.
                                 Tank Inflow = 87.943367.
                                                                 Tank Outflow = 63.863998.
Tank Level[17] = 64.370110%,
                                 Tank Inflow = 92.409286.
                                                                 Tank Outflow = 79.830002.
Tank Level[18] = 67.439537%,
                                 Tank Inflow = 89.650803.
                                                                 Tank Outflow = 119.745003.
Tank Level[19] = 60.096352\%,
                                 Tank Inflow = 89.923279.
                                                                 Tank Outflow = 119.745003.
Tank Level[20] = 52.819656%,
                                 Tank Inflow = 89.899849.
                                                                 Tank Outflow = 79.830132.
Tank Level[21] = 55.276730%,
                                 Tank Inflow = 85.338165.
                                                                 Tank Outflow = 63.864128.
                                 Tank Inflow = 72.554642,
                                                                 Tank Outflow = 47.898129,
Tank Level[22] = 60.516537%,
Tank Level[23] = 66.532883%,
                                 Tank Inflow = 52.639771,
                                                                 Tank Outflow = 31.932127.
Tank Level[24] = 71.585686%,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = Tippu Park
Tank Level[0] = 37.615940\%,
                                 Tank Inflow = 22.333456,
                                                                  Tank Outflow = 7.470129,
Tank Level[1] = 43.016537\%,
                                 Tank Inflow = 68.650665,
                                                                  Tank Outflow = 7.470129,
Tank Level[2] = 65.246498\%,
                                 Tank Inflow = 29.557558,
                                                                  Tank Outflow = 7.469999,
Tank Level[3] = 73.272011%,
                                 Tank Inflow = 53.390289,
                                                                 Tank Outflow = 7.470129,
Tank Level[4] = 89.957115%,
                                 Tank Inflow = 84.306671,
                                                                 Tank Outflow = 14.940128,
Tank Level[5] = 115.161461%,
                                 Tank Inflow = 19.155264,
                                                                 Tank Outflow = 37.350128,
Tank Level[6] = 108.550354\%,
                                 Tank Inflow = 26.808878,
                                                                 Tank Outflow = 74.700127,
Tank Level[7] = 91.149055%,
                                 Tank Inflow = 9.991111,
                                                                 Tank Outflow = 93.375130,
Tank Level[8] = 60.851467\%,
                                 Tank Inflow = 32.253723,
                                                                 Tank Outflow = 93.375130,
Tank Level[9] = 38.642990%,
                                 Tank Inflow = 50.504696,
                                                                 Tank Outflow = 74.700127,
Tank Level[10] = 29.851576%,
                                 Tank Inflow = 76.840919,
                                                                 Tank Outflow = 37.349998,
Tank Level[11] = 44.200611%,
                                 Tank Inflow = 26.240370,
                                                                 Tank Outflow = 37.350128,
Tank Level[12] = 40.163879%,
                                 Tank Inflow = 22.639456,
                                                                 Tank Outflow = 29.880127,
Tank Level[13] = 37.532982%,
                                 Tank Inflow = 56.923996,
                                                                 Tank Outflow = 29.880127,
Tank Level[14] = 47.359375%,
                                 Tank Inflow = 41.570705,
                                                                 Tank Outflow = 37.349998,
Tank Level[15] = 48.892975\%,
                                 Tank Inflow = 35.588634,
                                                                 Tank Outflow = 22.410128,
Tank Level[16] = 53.681385%,
                                 Tank Inflow = 40.600613,
                                                                 Tank Outflow = 29.879999,
Tank Level[17] = 57.576729%,
                                 Tank Inflow = 47.701035,
                                                                 Tank Outflow = 37.349998,
                                 Tank Inflow = 32.391621,
Tank Level[18] = 61.337776%,
                                                                 Tank Outflow = 56.025002,
                                 Tank Inflow = 34.209419,
Tank Level[19] = 52.750580%,
                                                                 Tank Outflow = 56.025002,
                                 Tank Inflow = 44.243885,
                                                                 Tank Outflow = 37.350128,
Tank Level[20] = 44.823887%,
                                 Tank Inflow = 39.746380,
Tank Level[21] = 47.328735%,
                                                                 Tank Outflow = 29.880127,
Tank Level[22] = 50.913635%,
                                 Tank Inflow = 26.669039,
                                                                 Tank Outflow = 22.410130,
Tank Level[23] = 52.461117%,
                                 Tank Inflow = 17.875875,
                                                                 Tank Outflow = 14.940128,
                                 Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank Level[24] = 53.527813%,
```

Main Tank Unconstrained

## 

Iteration Count = 96100 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96200 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96300 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96400 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96500 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96600 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96700 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96800 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 96900 Function Value = 35.506065 Norm = 35222.742188 alpha mult = 0.000037 Iteration Count = 97000 Function Value = 35.506065Norm = 35222.742188 alpha mult = 0.000037 

Percentage Difference = 0.000000 Gradient

Iteration Count = 97001

```
Valve ID = 80
```

```
Gradient = 0.001984
Valve Value [0] = 0.000000
Valve Value [1] = 0.000000
                                Gradient = 0.001984
Valve Value [2] = 0.000000
                                Gradient = 0.001984
Valve Value [3] = 0.000000
                                Gradient = 0.001984
Valve Value [4] = 0.000000
                                Gradient = 0.001984
Valve Value [5] = 0.000000
                                Gradient = 0.001984
Valve Value [6] = 0.000000
                                Gradient = 0.001984
Valve Value [7] = 0.000000
                                Gradient = 0.001984
Valve Value [8] = 0.000000
                                Gradient = 0.001984
Valve Value [9] = 0.000000
                                Gradient = 0.001984
Valve Value [10] = 0.000000
                                Gradient = 0.001984
Valve Value [11] = 0.000000
                                Gradient = 0.001984
Valve Value [12] = 0.000000
                                Gradient = 0.001984
Valve Value [13] = 0.000000
                                Gradient = 0.001984
Valve Value [14] = 0.000000
                                Gradient = 0.001984
Valve Value [15] = 0.000000
                                Gradient = 0.001984
Valve Value [16] = 0.000000
                                Gradient = 0.001984
Valve Value [17] = 0.000000
                                Gradient = 0.001984
Valve Value [18] = 0.000000
                                Gradient = 0.001984
Valve Value [19] = 0.000000
                                Gradient = 0.001984
Valve Value [20] = 0.000000
                                Gradient = 0.001984
Valve Value [21] = 0.000000
                                Gradient = 0.001984
Valve Value [22] = 0.000000
                                Gradient = 0.001984
Valve Value [23] = 0.000000
                                Gradient = 0.001984
```

```
Valve ID = 78
Valve Value [0] = 2.369698
                                 Gradient = 0.002022
Valve Value [1] = 11.758882
                                 Gradient = 0.001488
Valve Value [2] = 3.650372
                                 Gradient = 0.001869
Valve Value [3] = 16.123415
                                 Gradient = 0.000229
Valve Value [4] = 23.214165
                                 Gradient = -0.000610
Valve Value [5] = 11.231751
                                 Gradient = -0.000687
Valve Value [6] = 45.022732
                                 Gradient = 0.000038
Valve Value [7] = 67.237480
                                 Gradient = 0.000648
Valve Value [8] = 58.788750
                                 Gradient = 0.000305
Valve Value [9] = 61.106384
                                 Gradient = 0.001068
```

Gradient = 0.000496

```
Valve Value [11] = 18.041187
                                Gradient = 0.000725
Valve Value [12] = 18.857128
                                Gradient = 0.000648
Valve Value [13] = 31.665258
                                Gradient = 0.002747
Valve Value [14] = 134.262527
                                Gradient = 0.004005
Valve Value [15] = 20.585463
                                Gradient = -0.002785
Valve Value [16] = 14.852452
                                Gradient = 0.004044
Valve Value [17] = 32.064732
                                Gradient = -0.004768
Valve Value [18] = 51.259460
                                Gradient = 0.000496
Valve Value [19] = 31.564209
                                Gradient = -0.000381
Valve Value [20] = 12.682136
                                Gradient = -0.000267
Valve Value [21] = 28.707371
                                Gradient = 0.001831
Valve Value [22] = 29.285362
                                Gradient = 0.004005
Valve Value [23] = 12.310284
                                Gradient = 0.001602
Valve ID = 76
Valve Value [0] = 0.000000
                                Gradient = 0.002174
Valve Value [1] = 1.891589
                                Gradient = 0.000343
Valve Value [2] = 2.367153
                                Gradient = 0.000458
Valve Value [3] = 5.658293
                                Gradient = 0.000572
Valve Value [4] = 10.556918
                                Gradient = 0.000038
Valve Value [5] = 6.697094
                                Gradient = -0.000725
Valve Value [6] = 26.091528
                                Gradient = -0.000763
Valve Value [7] = 38.384205
                                Gradient = 0.000420
Valve Value [8] = 33.438656
                                Gradient = 0.000038
Valve Value [9] = 31.430834
                                Gradient = 0.000458
Valve Value [10] = 10.577205
                                Gradient = -0.000458
Valve Value [11] = 14.592088
                                Gradient = 0.000114
Valve Value [12] = 23.116234
                                Gradient = 0.000992
Valve Value [13] = 11.840092
                                Gradient = 0.000000
Valve Value [14] = 4.882578
                                Gradient = -0.001297
Valve Value [15] = 5.382865
                                Gradient = -0.000916
Valve Value [16] = 15.866616
                                Gradient = 0.001907
Valve Value [17] = 16.356546
                                Gradient = -0.000534
Valve Value [18] = 17.743370
                                Gradient = -0.000114
Valve Value [19] = 24.764336
                                Gradient = 0.000534
Valve Value [20] = 22.259048
                                Gradient = 0.000572
Valve Value [21] = 0.000000
                                Gradient = 0.001030
Valve Value [22] = 12.279657
                                Gradient = -0.001488
Valve Value [23] = 9.480855
                                Gradient = -0.000229
Valve ID = 74
Valve Value [0] = 3.204316
                                Gradient = 0.000877
Valve Value [1] = 38.019955
                                Gradient = 0.000610
Valve Value [2] = 11.071157
                                Gradient = -0.001335
Valve Value [3] = 19.674559
                                Gradient = 0.000267
Valve Value [4] = 27.746418
                                Gradient = 0.000191
Valve Value [5] = 57.721828
                                Gradient = 0.001717
Valve Value [6] = 102.193245
                                Gradient = 0.000534
Valve Value [7] = 108.023239
                                Gradient = -0.000153
Valve Value [8] = 119.016678
                                Gradient = -0.000610
Valve Value [9] = 68.841476
                                Gradient = -0.000458
Valve Value [10] = 98.430626
                                Gradient = 0.000648
Valve Value [11] = 84.738647
                                Gradient = 0.000191
Valve Value [12] = 41.603664
                                Gradient = -0.000572
Valve Value [13] = 49.575481
                                Gradient = 0.001869
Valve Value [14] = 118.943535
                                Gradient = 0.003967
Valve Value [15] = 147.587677
                                Gradient = 0.004005
Valve Value [16] = 18.046585
                                Gradient = 0.001640
Valve Value [17] = 45.846188
                                Gradient = -0.000572
Valve Value [18] = 58.242306
                                Gradient = -0.000267
Valve Value [19] = 101.032478
                                Gradient = -0.000572
Valve Value [20] = 58.983593
                                Gradient = -0.000648
Valve Value [21] = 82.584404
                                Gradient = 0.004044
Valve Value [22] = 50.051502
                                Gradient = -0.001755
Valve Value [23] = 22.883606
                                Gradient = -0.000038
```

Valve Value [10] = 39.729729

```
Valve Value [0] = 50.911427
                                Gradient = 0.004578
Valve Value [1] = 0.000000
                                Gradient = 0.001984
                                Gradient = 0.003967
Valve Value [2] = 81.529274
Valve Value [3] = 65.644966
                                Gradient = 0.004005
Valve Value [4] = 98.959854
                                Gradient = 0.003395
Valve Value [5] = 103.991386
                                Gradient = 0.004005
Valve Value [6] = 89.664734
                                Gradient = 0.001259
Valve Value [7] = 89.643509
                                Gradient = 0.000877
Valve Value [8] = 96.755714
                                Gradient = -0.004959
Valve Value [9] = 69.693336
                                Gradient = 0.000725
Valve Value [10] = 148.336777
                                Gradient = 0.002098
Valve Value [11] = 148.766113
                                Gradient = 0.001831
Valve Value [12] = 95.209221
                                Gradient = -0.000153
Valve Value [13] = 45.777912
                                Gradient = 0.003967
Valve Value [14] = 96.308800
                                Gradient = 0.001488
Valve Value [15] = 70.706337
                                Gradient = 0.000458
Valve Value [16] = 154.684235
                                Gradient = 0.003967
Valve Value [17] = 129.870361
                                Gradient = -0.000343
Valve Value [18] = 57.182518
                                Gradient = 0.001259
Valve Value [19] = 17.986380
                                Gradient = -0.002251
Valve Value [20] = 139.743591
                                Gradient = -0.001678
Valve Value [21] = 67.155067
                                Gradient = 0.004005
Valve Value [22] = 2.530705
                                Gradient = -0.001717
Valve Value [23] = 55.685074
                                Gradient = 0.001068
Valve ID = 40
Valve Value [0] = 0.000000
                                Gradient = 187.677231
Valve Value [1] = 37.307613
                                Gradient = 0.000534
Valve Value [2] = 11.971557
                                Gradient = 0.000839
Valve Value [3] = 16.864958
                                Gradient = -0.000648
Valve Value [4] = 28.663881
                                Gradient = -0.000916
Valve Value [5] = 40.807652
                                Gradient = 0.000534
Valve Value [6] = 35.667889
                                Gradient = 0.000038
Valve Value [7] = 50.460903
                                Gradient = 0.000000
Valve Value [8] = 80.013687
                                Gradient = -0.000343
Valve Value [9] = 92.398453
                                Gradient = -0.000153
Valve Value [10] = 31.477177
                                Gradient = -0.000191
Valve Value [11] = 13.154087
                                Gradient = -0.000381
Valve Value [12] = 35.780659
                                Gradient = 0.000000
Valve Value [13] = 96.598083
                                Gradient = 0.003090
Valve Value [14] = 44.634605
                                Gradient = 0.000839
Valve Value [15] = 3.231138
                                Gradient = -0.002213
Valve Value [16] = 64.406799
                                Gradient = 0.004349
Valve Value [17] = 8.608088
                                Gradient = -0.003586
Valve Value [18] = 53.475082
                                Gradient = -0.000305
Valve Value [19] = 38.826485
                                Gradient = -0.000534
Valve Value [20] = 25.974852
                                Gradient = -0.000534
Valve Value [21] = 12.574105
                                Gradient = 0.001755
Valve Value [22] = 57.982403
                                Gradient = 0.000648
Valve Value [23] = 6.252959
                                Gradient = -0.000687
Valve ID = 6
Valve Value [0] = 57.853889
                                Gradient = 0.004005
Valve Value [1] = 88.976257
                                Gradient = 0.004082
Valve Value [2] = 113.075607
                                Gradient = 0.004005
Valve Value [3] = 113.979591
                                Gradient = 0.002975
Valve Value [4] = 189.115753
                                Gradient = 0.002098
                                Gradient = -0.000801
Valve Value [5] = 204.538605
Valve Value [6] = 298.615997
                                Gradient = 0.001106
Valve Value [7] = 353.728210
                                Gradient = 0.001717
Valve Value [8] = 389.286713
                                Gradient = 0.008469
Valve Value [9] = 323.453613
                                Gradient = 0.001640
```

Valve ID = 72

Gradient = 0.002518

```
Valve Value [11] = 279.284546
                                Gradient = 0.002480
Valve Value [12] = 233.263657
                                Gradient = 0.004005
Valve Value [13] = 227.311386
                                Gradient = -0.000114
Valve Value [14] = 245.026093
                                Gradient = 0.002785
Valve Value [15] = 210.472137
                                Gradient = 0.004044
Valve Value [16] = 209.967163
                                Gradient = 0.000381
Valve Value [17] = 233.029770
                                Gradient = 0.004005
Valve Value [18] = 237.890991
                                Gradient = 0.001030
Valve Value [19] = 228.983185
                                Gradient = 0.004005
Valve Value [20] = 262.317902
                                Gradient = 0.004425
Valve Value [21] = 123.628128
                                Gradient = -0.001678
Valve Value [22] = 194.423416
                                Gradient = 0.004005
Valve Value [23] = 106.605370
                                Gradient = 0.001717
Valve ID = 3
Valve Value [0] = 5.582521
                                Gradient = 0.002556
Valve Value [1] = 88.998917
                                Gradient = 0.002975
Valve Value [2] = 29.058657
                                Gradient = 0.001793
Valve Value [3] = 69.492996
                                Gradient = 0.004005
Valve Value [4] = 195.126923
                                Gradient = 0.004005
Valve Value [5] = 120.758698
                                Gradient = 0.004044
Valve Value [6] = 208.963211
                                Gradient = -0.000153
Valve Value [7] = 264.099365
                                Gradient = 0.000801
Valve Value [8] = 291.242645
                                Gradient = -0.000763
Valve Value [9] = 253.769547
                                Gradient = 0.000954
Valve Value [10] = 197.895645
                                Gradient = 0.004005
Valve Value [11] = 130.521255
                                Gradient = 0.000610
Valve Value [12] = 119.358757
                                Gradient = 0.001144
Valve Value [13] = 244.360580
                                Gradient = 0.004005
Valve Value [14] = 148.699722
                                Gradient = 0.001297
Valve Value [15] = 140.821777
                                Gradient = 0.004005
Valve Value [16] = 91.672508
                                Gradient = -0.001144
Valve Value [17] = 149.167847
                                Gradient = 0.004005
Valve Value [18] = 180.710190
                                Gradient = -0.000191
Valve Value [19] = 196.182556
                                Gradient = -0.000954
Valve Value [20] = 119.894623
                                Gradient = -0.000839
Valve Value [21] = 64.322975
                                Gradient = 0.004005
Valve Value [22] = 149.019211
                                Gradient = -0.001678
Valve Value [23] = 50.913799
                                Gradient = 0.000687
Valve ID = 5
Valve Value [0] = 3.204294
                                Gradient = 0.000801
Valve Value [1] = 39.914921
                                Gradient = 0.000954
Valve Value [2] = 17.097229
                                Gradient = 0.004005
Valve Value [3] = 25.337404
                                Gradient = 0.000839
Valve Value [4] = 38.303997
                                Gradient = 0.000229
Valve Value [5] = 64.412865
                                Gradient = 0.000992
Valve Value [6] = 128.276840
                                Gradient = -0.000229
Valve Value [7] = 146.409302
                                Gradient = 0.000191
Valve Value [8] = 152.453690
                                Gradient = -0.000610
Valve Value [9] = 100.274574
                                Gradient = 0.000000
Valve Value [10] = 109.005127
                                Gradient = 0.000191
Valve Value [11] = 99.331337
                                Gradient = 0.000267
Valve Value [12] = 64.727875
                                Gradient = 0.000458
Valve Value [13] = 61.416321
                                Gradient = 0.001869
Valve Value [14] = 50.611790
                                Gradient = -0.000954
Valve Value [15] = 106.512276
                                Gradient = -0.003662
Valve Value [16] = 34.003265
                                Gradient = 0.003967
Valve Value [17] = 62.200001
                                Gradient = -0.001144
Valve Value [18] = 75.984573
                                Gradient = -0.000381
Valve Value [19] = 125.800911
                                Gradient = -0.000114
                                Gradient = -0.000076
Valve Value [20] = 81.246986
Valve Value [21] = 22.227404
                                Gradient = -0.000381
Valve Value [22] = 62.985638
                                Gradient = 0.003967
Valve Value [23] = 32.362865
                                Gradient = -0.000229
```

Valve Value [10] = 328.531708

```
Tank ID = 34
Tank Level[0] = 50.000000\%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 56.485531,
Tank Level[1] = 116.680000\%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 88.976273,
Tank Level[2] = 171.554489%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 110.588043,
Tank Level[3] = 218.576324%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 113.979607,
Tank Level[4] = 264.365845\%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 189.115768,
Tank Level[5] = 282.854675%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 204.538620,
Tank Level[6] = 295.739532%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 298.616028,
Tank Level[7] = 274.441406%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 353.728241,
Tank Level[8] = 233.118240%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 387.998413,
Tank Level[9] = 179.343002%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 323.453644,
Tank Level[10] = 149.020111%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 328.531738,
Tank Level[11] = 116.852089%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 279.284576,
Tank Level[12] = 102.578033%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 214.566757,
Tank Level[13] = 111.819199%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 227.311401,
Tank Level[14] = 116.429611%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 245.008759,
Tank Level[15] = 114.609680%,
                                Tank Inflow = 240.000000,
                                                                  Tank Outflow = 201.035477,
Tank Level[16] = 128.767456%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 209.967178,
Tank Level[17] = 139.679871%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 232.743225,
Tank Level[18] = 142.316620\%.
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 237.891006.
Tank Level[19] = 143.082947%,
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 214.169052.
Tank Level[20] = 152.468613%,
                                Tank Inflow = 240.000000.
                                                                 Tank Outflow = 259.638214.
Tank Level[21] = 145.333084%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 123.628143.
                                                                 Tank Outflow = 151.550049,
Tank Level[22] = 187.616806%,
                                Tank Inflow = 240.000000,
Tank Level[23] = 219.755112%,
                                Tank Inflow = 240.000000,
                                                                 Tank Outflow = 106.599113,
                                Tank Inflow = 0.000000,
Tank Level[24] = 268.226349%,
                                                                 Tank Outflow = 0.000000.
Tank ID = Veeranageeri
Tank Level[0] = 51.855747\%,
                                Tank Inflow = 2.369735,
                                                                 Tank Outflow = 5.625000,
Tank Level[1] = 49.511665%,
                                Tank Inflow = 11.758901,
                                                                 Tank Outflow = 5.625000,
Tank Level[2] = 53.928623%,
                                Tank Inflow = 3.648457,
                                                                 Tank Outflow = 5.625000,
Tank Level[3] = 52.505333%,
                                Tank Inflow = 16.123434,
                                                                 Tank Outflow = 5.625000,
Tank Level[4] = 60.065155\%,
                                Tank Inflow = 23.214184,
                                                                 Tank Outflow = 11.250000,
Tank Level[5] = 68.680450%,
                                Tank Inflow = 11.231771,
                                                                 Tank Outflow = 28.125000,
Tank Level[6] = 56.515797\%,
                                Tank Inflow = 45.018684,
                                                                 Tank Outflow = 56.250000,
Tank Level[7] = 48.428238%,
                                Tank Inflow = 67.230881,
                                                                 Tank Outflow = 70.312500,
Tank Level[8] = 46.209194\%,
                                Tank Inflow = 58.775383,
                                                                 Tank Outflow = 70.312500,
Tank Level[9] = 37.901428\%,
                                Tank Inflow = 61.098930,
                                                                 Tank Outflow = 56.250000,
Tank Level[10] = 41.393097%,
                                Tank Inflow = 39.729744,
                                                                 Tank Outflow = 28.125000,
Tank Level[11] = 49.749557%,
                                Tank Inflow = 18.036322,
                                                                 Tank Outflow = 28.125000,
Tank Level[12] = 42.484798%,
                                Tank Inflow = 18.857162,
                                                                 Tank Outflow = 22.500000,
Tank Level[13] = 39.861629%,
                                Tank Inflow = 31.665276,
                                                                 Tank Outflow = 22.500000,
Tank Level[14] = 46.461456\%,
                                Tank Inflow = 53.453320,
                                                                 Tank Outflow = 28.125000,
Tank Level[15] = 64.700134\%,
                                Tank Inflow = 20.585497,
                                                                 Tank Outflow = 16.875000,
Tank Level[16] = 67.372017%,
                                Tank Inflow = -6.647573,
                                                                 Tank Outflow = 22.500000,
Tank Level[17] = 46.383141%,
                                Tank Inflow = 32.064766,
                                                                 Tank Outflow = 28.125000,
Tank Level[18] = 49.220123%,
                                Tank Inflow = 51.250431,
                                                                 Tank Outflow = 42.187500,
Tank Level[19] = 55.746254%,
                                Tank Inflow = 31.559164,
                                                                 Tank Outflow = 42.187500,
Tank Level[20] = 48.092892%,
                                Tank Inflow = 12.677375,
                                                                 Tank Outflow = 28.125000,
Tank Level[21] = 36.969212%,
                                Tank Inflow = 28.707390,
                                                                 Tank Outflow = 22.500000,
                                                                 Tank Outflow = 16.875000,
Tank Level[22] = 41.439091%,
                                Tank Inflow = 28.705790,
Tank Level[23] = 49.958328%,
                                Tank Inflow = 12.297979,
                                                                 Tank Outflow = 11.250000,
Tank Level[24] = 50.712963%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR mohalla2
Tank Level[0] = 54.263428\%,
                                Tank Inflow = 0.000010,
                                                                 Tank Outflow = 2.879999,
Tank Level[1] = 50.134796%,
                                Tank Inflow = 1.891617,
                                                                 Tank Outflow = 2.880129,
Tank Level[2] = 48.717705%,
                                Tank Inflow = 2.367163,
                                                                 Tank Outflow = 2.880128,
Tank Level[3] = 47.982338%,
                                Tank Inflow = 5.658322,
                                                                 Tank Outflow = 2.879999,
Tank Level[4] = 51.965225%,
                                Tank Inflow = 10.556946,
                                                                 Tank Outflow = 5.759999,
Tank Level[5] = 58.841938%,
                                Tank Inflow = 6.697100,
                                                                 Tank Outflow = 14.400130,
Tank Level[6] = 47.799187%,
                                Tank Inflow = 26.091532,
                                                                 Tank Outflow = 28.799995,
                                Tank Inflow = 38.384209,
                                                                 Tank Outflow = 36.000004,
Tank Level[7] = 43.916439\%,
                                Tank Inflow = 33.438660,
                                                                 Tank Outflow = 36.000130,
Tank Level[8] = 47.334343\%,
Tank Level[9] = 43.662319\%,
                                Tank Inflow = 31.430840,
                                                                 Tank Outflow = 28.800003,
Tank Level[10] = 47.433777\%,
                                Tank Inflow = 10.577210,
                                                                 Tank Outflow = 14.400130,
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Tank Level[11] = 41.953396%,
                                Tank Inflow = 14.592095,
                                                                 Tank Outflow = 14.400130,
Tank Level[12] = 42.228588%,
                                Tank Inflow = 23.116276,
                                                                 Tank Outflow = 11.520129,
Tank Level[13] = 58.852352%,
                                Tank Inflow = 11.840117,
                                                                 Tank Outflow = 11.520000,
Tank Level[14] = 59.311256%,
                                Tank Inflow = 4.882584,
                                                                 Tank Outflow = 14.400003,
Tank Level[15] = 45.667473%,
                                Tank Inflow = 5.382871,
                                                                 Tank Outflow = 8.640131,
Tank Level[16] = 40.997997%,
                                Tank Inflow = 15.866625,
                                                                 Tank Outflow = 11.520131,
Tank Level[17] = 47.228954%,
                                Tank Inflow = 16.356550,
                                                                 Tank Outflow = 14.400130,
Tank Level[18] = 50.033596\%,
                                Tank Inflow = 17.743374,
                                                                 Tank Outflow = 21.600130,
Tank Level[19] = 44.504711%,
                                Tank Inflow = 24.764341,
                                                                 Tank Outflow = 21.600130,
Tank Level[20] = 49.040791%,
                                Tank Inflow = 22.259056,
                                                                 Tank Outflow = 14.400130,
Tank Level[21] = 60.307026%,
                                Tank Inflow = 0.000006,
                                                                 Tank Outflow = 11.520129,
Tank Level[22] = 43.792248%,
                                Tank Inflow = 12.279666,
                                                                 Tank Outflow = 8.640131,
Tank Level[23] = 49.009735%,
                                Tank Inflow = 9.480860,
                                                                 Tank Outflow = 5.760129,
Tank Level[24] = 54.343624%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = NR Mohalla1
Tank Level[0] = 53.257778\%,
                                Tank Inflow = 3.204321,
                                                                 Tank Outflow = 11.394000,
Tank Level[1] = 50.282055%,
                                Tank Inflow = 38.019978,
                                                                 Tank Outflow = 11.394000,
Tank Level[2] = 59.956608%,
                                Tank Inflow = 11.071160,
                                                                 Tank Outflow = 11.394000,
Tank Level[3] = 59.839306\%,
                                Tank Inflow = 19.674582,
                                                                 Tank Outflow = 11.394000,
Tank Level[4] = 62.848057\%,
                                Tank Inflow = 27.746441.
                                                                 Tank Outflow = 22.788000.
Tank Level[5] = 64.649712\%,
                                Tank Inflow = 57.715553,
                                                                 Tank Outflow = 56.970001.
Tank Level[6] = 64.920609%,
                                Tank Inflow = 102.185471.
                                                                 Tank Outflow = 113.940002.
Tank Level[7] = 60.649593\%,
                                Tank Inflow = 108.023239.
                                                                 Tank Outflow = 142.425003.
Tank Level[8] = 48.149704%,
                                Tank Inflow = 119.014847,
                                                                 Tank Outflow = 142.425003.
Tank Level[9] = 39.643616%,
                                Tank Inflow = 68.841484,
                                                                 Tank Outflow = 113.940002.
Tank Level[10] = 23.257063\%,
                                Tank Inflow = 98.427841,
                                                                 Tank Outflow = 56.970001,
                                Tank Inflow = 84.738647,
Tank Level[11] = 38.320774%,
                                                                 Tank Outflow = 56.970001,
                                                                 Tank Outflow = 45.576000,
Tank Level[12] = 48.410522%,
                                Tank Inflow = 41.603703,
Tank Level[13] = 46.967186%,
                                Tank Inflow = 49.575500,
                                                                 Tank Outflow = 45.576000,
Tank Level[14] = 48.420406\%,
                                Tank Inflow = 45.729248,
                                                                 Tank Outflow = 56.970001,
Tank Level[15] = 44.336075%,
                                Tank Inflow = 101.129265,
                                                                 Tank Outflow = 34.181999,
Tank Level[16] = 68.661377%,
                                Tank Inflow = 18.046589,
                                                                 Tank Outflow = 45.576000,
Tank Level[17] = 58.658558%,
                                Tank Inflow = 45.843487,
                                                                 Tank Outflow = 56.970001,
Tank Level[18] = 54.615730\%,
                                Tank Inflow = 58.241341,
                                                                 Tank Outflow = 85.455002,
Tank Level[19] = 44.727646\%,
                                Tank Inflow = 101.032478,
                                                                 Tank Outflow = 85.455002,
Tank Level[20] = 50.387726%,
                                Tank Inflow = 58.983597,
                                                                 Tank Outflow = 56.970001,
Tank Level[21] = 51.119366%,
                                Tank Inflow = 22.227554,
                                                                 Tank Outflow = 45.576000,
Tank Level[22] = 42.635700%,
                                Tank Inflow = 50.051506,
                                                                 Tank Outflow = 34.181999,
Tank Level[23] = 48.401886\%,
                                Tank Inflow = 22.882092,
                                                                 Tank Outflow = 22.788000,
Tank Level[24] = 48.436073\%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
Tank ID = Rajiv nagar II
Tank Level[0] = 49.438320\%,
                                Tank Inflow = 50.911446,
                                                                 Tank Outflow = 15.966000,
Tank Level[1] = 57.965237\%,
                                Tank Inflow = -0.002172,
                                                                 Tank Outflow = 15.966128,
Tank Level[2] = 54.068863%,
                                Tank Inflow = 81.529289,
                                                                 Tank Outflow = 15.966128,
Tank Level[3] = 70.066704\%,
                                Tank Inflow = 55.658115,
                                                                 Tank Outflow = 15.966000,
Tank Level[4] = 79.751839\%,
                                Tank Inflow = 98.933968,
                                                                 Tank Outflow = 31.931999,
Tank Level[5] = 96.100754\%,
                                Tank Inflow = 88.086418,
                                                                 Tank Outflow = 79.830132,
Tank Level[6] = 98.115341%,
                                Tank Inflow = 89.652748,
                                                                 Tank Outflow = 159.660004,
Tank Level[7] = 81.033112%,
                                Tank Inflow = 89.628807,
                                                                 Tank Outflow = 199.574997,
Tank Level[8] = 54.205524%,
                                Tank Inflow = 96.755730,
                                                                 Tank Outflow = 199.575119,
                                                                 Tank Outflow = 159.660004,
Tank Level[9] = 29.116919%,
                                Tank Inflow = 69.684227,
Tank Level[10] = 7.162239\%,
                                Tank Inflow = 148.319489,
                                                                 Tank Outflow = 79.830132,
Tank Level[11] = 23.874092%,
                                Tank Inflow = 148.763153,
                                                                 Tank Outflow = 79.830132,
Tank Level[12] = 40.694202%,
                                Tank Inflow = 95.209236,
                                                                 Tank Outflow = 63.864128,
Tank Level[13] = 48.342617%,
                                Tank Inflow = 37.632320,
                                                                 Tank Outflow = 63.863998,
Tank Level[14] = 41.941914%,
                                Tank Inflow = 96.308815,
                                                                 Tank Outflow = 79.830002,
Tank Level[15] = 45.962852%,
                                Tank Inflow = 70.706352,
                                                                 Tank Outflow = 47.898129,
                                Tank Inflow = 118.294655,
                                                                 Tank Outflow = 63.864128,
Tank Level[16] = 51.528210%,
                                Tank Inflow = 129.870377,
                                                                 Tank Outflow = 79.830132,
Tank Level[17] = 64.809616%,
                                Tank Inflow = 57.180622,
                                                                 Tank Outflow = 119.745132,
Tank Level[18] = 77.019760%,
                                Tank Inflow = 17.986397,
                                                                 Tank Outflow = 119.745132,
Tank Level[19] = 61.753616%,
                                Tank Inflow = 139.743607,
                                                                 Tank Outflow = 79.830132,
Tank Level[20] = 36.923817%,
                                Tank Inflow = 60.119373,
                                                                 Tank Outflow = 63.864128,
Tank Level[21] = 51.543098%,
                                Tank Inflow = 2.530722,
                                                                 Tank Outflow = 47.898129,
Tank Level[22] = 50.629353%,
Tank Level[23] = 39.559410%,
                                Tank Inflow = 55.685089,
                                                                 Tank Outflow = 31.932127,
Tank Level[24] = 45.355289\%,
                                Tank Inflow = 0.000000,
                                                                 Tank Outflow = 0.000000,
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Tank ID = Tippu Park
Tank Level[0] = 50.530083\%,
                                 Tank Inflow = 0.000042,
                                                                  Tank Outflow = 7.469999,
                                 Tank Inflow = 37.307636,
                                                                  Tank Outflow = 7.470129,
Tank Level[1] = 47.815876\%,
Tank Level[2] = 58.657337\%,
                                                                  Tank Outflow = 7.470129,
                                 Tank Inflow = 11.971561,
                                                                  Tank Outflow = 7.469999,
Tank Level[3] = 60.292934\%,
                                 Tank Inflow = 16.864983,
Tank Level[4] = 63.706604\%,
                                                                  Tank Outflow = 14.940000
                                 Tank Inflow = 28.663904,
Tank Level[5] = 68.693184\%,
                                                                  Tank Outflow = 37.350128,
                                 Tank Inflow = 40.807674,
Tank Level[6] = 69.949486\%,
                                 Tank Inflow = 35.667892,
                                                                  Tank Outflow = 74.699997,
Tank Level[7] = 55.767166%,
                                 Tank Inflow = 50.460907,
                                                                  Tank Outflow = 93.375000,
Tank Level[8] = 40.174320\%,
                                 Tank Inflow = 80.013687,
                                                                  Tank Outflow = 93.375130,
Tank Level[9] = 35.319439%,
                                 Tank Inflow = 92.398453,
                                                                  Tank Outflow = 74.699997,
Tank Level[10] = 41.750175%,
                                 Tank Inflow = 31.477198,
                                                                  Tank Outflow = 37.350128,
Tank Level[11] = 39.616245%,
                                 Tank Inflow = 13.154092,
                                                                  Tank Outflow = 37.350128,
Tank Level[12] = 30.824612%,
                                 Tank Inflow = 35.780697,
                                                                  Tank Outflow = 29.880129,
Tank Level[13] = 32.968586%,
                                 Tank Inflow = 96.598099,
                                                                  Tank Outflow = 29.879999,
Tank Level[14] = 57.210617%,
                                 Tank Inflow = 44.634609,
                                                                  Tank Outflow = 37.349998,
Tank Level[15] = 59.857483%,
                                 Tank Inflow = 3.231178,
                                                                  Tank Outflow = 22.410130,
Tank Level[16] = 52.888805%,
                                 Tank Inflow = 64.406799,
                                                                  Tank Outflow = 29.880129,
Tank Level[17] = 65.434074\%,
                                 Tank Inflow = 8.608129,
                                                                  Tank Outflow = 37.350128,
Tank Level[18] = 54.990669\%,
                                 Tank Inflow = 53.475086,
                                                                  Tank Outflow = 56.025131.
Tank Level[19] = 54.064106\%,
                                 Tank Inflow = 38.826488.
                                                                  Tank Outflow = 56.025131.
Tank Level[20] = 47.814980\%,
                                 Tank Inflow = 25.974855,
                                                                  Tank Outflow = 37.350128.
Tank Level[21] = 43.681774%,
                                 Tank Inflow = 12.574129,
                                                                  Tank Outflow = 29.880129.
Tank Level[22] = 37.393631%,
                                 Tank Inflow = 57.982407,
                                                                  Tank Outflow = 22.410128.
Tank Level[23] = 50.318829\%,
                                 Tank Inflow = 6.252964,
                                                                  Tank Outflow = 14.940128,
Tank Level[24] = 47.162346\%,
                                 Tank Inflow = 0.000000,
                                                                  Tank Outflow = 0.000000,
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