**M=500,beta=0.98**

x =

Columns 1 through 13

10.0000 10.0000 9.8000 9.6040 9.4119 9.2237 9.0392 8.8584 8.6813 8.5076 8.3375 8.1707 8.0073

Columns 14 through 26

7.8472 7.6902 7.5364 7.3857 7.2380 7.0932 6.9514 6.8123 6.6761 6.5426 6.4117 6.2835 6.1578

Columns 27 through 39

6.0346 5.9140 5.7957 5.6798 5.5662 5.4548 5.3457 5.2388 5.1341 5.0314 4.9307 4.8321 4.7355

Columns 40 through 52

4.6408 4.5480 4.4570 4.3679 4.2805 4.1949 4.1110 4.0288 3.9482 3.8692 3.7919 3.7160 3.6417

Columns 53 through 65

3.5689 3.4975 3.4275 3.3590 3.2918 3.2260 3.1614 3.0982 3.0363 2.9755 2.9160 2.8577 2.8005

Columns 66 through 78

2.7445 2.6896 2.6359 2.5831 2.5315 2.4808 2.4312 2.3826 2.3349 2.2883 2.2425 2.1976 2.1537

Columns 79 through 91

2.1106 2.0684 2.0270 1.9865 1.9468 1.9078 1.8697 1.8323 1.7956 1.7597 1.7245 1.6900 1.6562

Columns 92 through 104

1.6231 1.5906 1.5588 1.5277 1.4971 1.4672 1.4378 1.4091 1.3809 1.3533 1.3262 1.2997 1.2737

Columns 105 through 117

1.2482 1.2232 1.1988 1.1748 1.1513 1.1283 1.1057 1.0836 1.0619 1.0407 1.0199 0.9995 0.9795

Columns 118 through 130

0.9599 0.9407 0.9219 0.9034 0.8854 0.8677 0.8503 0.8333 0.8166 0.8003 0.7843 0.7686 0.7532

Columns 131 through 143

0.7382 0.7234 0.7090 0.6948 0.6809 0.6673 0.6539 0.6408 0.6280 0.6155 0.6031 0.5911 0.5793

Columns 144 through 156

0.5677 0.5563 0.5452 0.5343 0.5236 0.5131 0.5029 0.4928 0.4830 0.4733 0.4638 0.4546 0.4455

Columns 157 through 169

0.4366 0.4278 0.4193 0.4109 0.4027 0.3946 0.3867 0.3790 0.3714 0.3640 0.3567 0.3496 0.3426

Columns 170 through 182

0.3357 0.3290 0.3224 0.3160 0.3097 0.3035 0.2974 0.2914 0.2856 0.2799 0.2743 0.2688 0.2634

Columns 183 through 195

0.2582 0.2530 0.2480 0.2430 0.2381 0.2334 0.2287 0.2241 0.2196 0.2153 0.2110 0.2067 0.2026

Columns 196 through 208

0.1985 0.1946 0.1907 0.1869 0.1831 0.1795 0.1759 0.1724 0.1689 0.1655 0.1622 0.1590 0.1558

Columns 209 through 221

0.1527 0.1496 0.1466 0.1437 0.1408 0.1380 0.1353 0.1326 0.1299 0.1273 0.1248 0.1223 0.1198

Columns 222 through 234

0.1174 0.1151 0.1128 0.1105 0.1083 0.1061 0.1040 0.1019 0.0999 0.0979 0.0959 0.0940 0.0921

Columns 235 through 247

0.0903 0.0885 0.0867 0.0850 0.0833 0.0816 0.0800 0.0784 0.0768 0.0753 0.0738 0.0723 0.0709

Columns 248 through 260

0.0694 0.0681 0.0667 0.0654 0.0640 0.0628 0.0615 0.0603 0.0591 0.0579 0.0567 0.0556 0.0545

Columns 261 through 273

0.0534 0.0523 0.0513 0.0503 0.0493 0.0483 0.0473 0.0464 0.0454 0.0445 0.0436 0.0428 0.0419

Columns 274 through 286

0.0411 0.0402 0.0394 0.0387 0.0379 0.0371 0.0364 0.0357 0.0349 0.0342 0.0336 0.0329 0.0322

Columns 287 through 299

0.0316 0.0309 0.0303 0.0297 0.0291 0.0285 0.0280 0.0274 0.0269 0.0263 0.0258 0.0253 0.0248

Columns 300 through 312

0.0243 0.0238 0.0233 0.0229 0.0224 0.0220 0.0215 0.0211 0.0207 0.0202 0.0198 0.0194 0.0191

Columns 313 through 325

0.0187 0.0183 0.0179 0.0176 0.0172 0.0169 0.0165 0.0162 0.0159 0.0156 0.0153 0.0150 0.0147

Columns 326 through 338

0.0144 0.0141 0.0138 0.0135 0.0132 0.0130 0.0127 0.0125 0.0122 0.0120 0.0117 0.0115 0.0113

Columns 339 through 351

0.0110 0.0108 0.0106 0.0104 0.0102 0.0100 0.0098 0.0096 0.0094 0.0092 0.0090 0.0088 0.0087

Columns 352 through 364

0.0085 0.0083 0.0082 0.0080 0.0078 0.0077 0.0075 0.0074 0.0072 0.0071 0.0069 0.0068 0.0067

Columns 365 through 377

0.0065 0.0064 0.0063 0.0061 0.0060 0.0059 0.0058 0.0057 0.0056 0.0054 0.0053 0.0052 0.0051

Columns 378 through 390

0.0050 0.0049 0.0048 0.0047 0.0046 0.0045 0.0045 0.0044 0.0043 0.0042 0.0041 0.0040 0.0039

Columns 391 through 403

0.0039 0.0038 0.0037 0.0036 0.0036 0.0035 0.0034 0.0034 0.0033 0.0032 0.0032 0.0031 0.0030

Columns 404 through 416

0.0030 0.0029 0.0029 0.0028 0.0027 0.0027 0.0026 0.0026 0.0025 0.0025 0.0024 0.0024 0.0023

Columns 417 through 429

0.0023 0.0022 0.0022 0.0022 0.0021 0.0021 0.0020 0.0020 0.0019 0.0019 0.0019 0.0018 0.0018

Columns 430 through 442

0.0018 0.0017 0.0017 0.0017 0.0016 0.0016 0.0016 0.0015 0.0015 0.0015 0.0014 0.0014 0.0014

Columns 443 through 455

0.0014 0.0013 0.0013 0.0013 0.0012 0.0012 0.0012 0.0012 0.0011 0.0011 0.0011 0.0011 0.0011

Columns 456 through 457

0.0010 0.0010

y =

Columns 1 through 13

889.8988 582.7336 539.0637 552.6588 539.0637 539.0636 532.2501 539.0635 571.1044 543.6920 582.7335 536.8784 567.3989

Columns 14 through 26

533.7875 533.7875 571.3138 566.0376 568.2681 539.0637 582.7335 540.8082 532.2501 540.6007 539.0635 540.8082 543.6920

Columns 27 through 39

532.2501 543.6919 533.7874 567.6133 543.6920 532.2501 532.2502 533.7874 539.0636 577.9178 574.4268 540.6009 539.0636

Columns 40 through 52

545.4365 552.6587 602.3217 532.2503 559.4721 533.7874 539.0637 533.7875 568.2681 533.7875 532.2502 552.2500 547.6216

Columns 53 through 65

533.7874 539.0635 532.2503 572.8511 566.0376 533.7874 567.6133 540.8082 539.0637 539.0637 540.8082 567.6132 532.2501

Columns 66 through 78

539.0637 532.2501 539.0635 539.0637 539.0637 539.0636 533.7874 539.0637 595.5083 584.2709 559.4721 532.2501 533.7875

Columns 79 through 91

536.8786 552.6587 539.0637 532.2501 575.0817 569.1288 582.7336 616.1277 589.7357 540.6008 532.2503 540.8082 539.0637

Columns 92 through 104

567.6134 533.7875 539.0637 536.8785 543.6919 539.0636 533.7875 536.8784 552.6586 533.7875 540.6008 543.6919 568.0301

Columns 105 through 117

540.8082 532.2502 577.9180 543.6919 532.2501 532.2501 551.8384 532.2501 532.2501 576.1713 571.1044 539.0635 532.2502

Columns 118 through 130

532.2502 539.0637 532.2501 539.0636 543.6920 575.0816 532.2502 536.8786 564.5004 532.2502 532.2501 559.4722 582.7336

Columns 131 through 143

540.6009 532.2502 540.6009 540.6009 532.2501 532.2501 532.2503 539.0636 539.0635 533.7874 540.6009 533.7873 540.8082

Columns 144 through 156

540.6009 582.9847 536.8786 532.2503 532.2502 564.5004 540.6008 539.0635 533.7873 532.2501 539.0637 567.3989 542.3454

Columns 157 through 169

574.4267 532.2501 582.7335 559.4721 545.4365 567.6134 577.9178 595.5090 532.2501 543.6919 536.8784 582.7336 552.2500

Columns 170 through 182

543.6919 532.2501 536.8786 543.6919 532.2501 533.7874 532.2501 532.2503 533.7874 540.8082 532.2501 532.2502 540.8082

Columns 183 through 195

552.6586 539.0635 539.0636 568.2682 532.2501 551.8384 532.2501 559.4721 533.7873 545.4365 539.0637 532.2501 547.6216

Columns 196 through 208

532.2502 533.7875 571.3138 532.2503 559.4722 567.3989 533.7874 540.8082 532.2501 536.8786 575.0817 532.2501 543.6920

Columns 209 through 221

551.8384 536.8785 539.0637 587.3619 540.8082 539.0637 532.2503 532.2501 549.1588 532.2501 539.0637 533.7874 559.4722

Columns 222 through 234

552.6587 551.8388 539.0636 567.6133 539.0637 540.6008 552.6587 532.2502 539.0637 582.7335 532.2502 543.6919 539.0635

Columns 235 through 247

552.6587 552.6588 582.7335 577.9180 587.3619 582.7336 532.2501 539.0637 532.2502 536.8786 539.0637 540.6008 543.6920

Columns 248 through 260

536.8786 559.4722 540.6009 582.7336 610.5988 549.1588 542.3454 574.4266 552.6588 577.9180 539.0636 533.7874 575.0817

Columns 261 through 273

532.2502 532.2501 539.0637 587.3620 532.2501 533.7873 559.4721 536.8786 532.2501 536.8786 542.3454 532.2502 532.2501

Columns 274 through 286

568.2682 532.2501 575.0817 532.2501 582.7335 582.7336 547.6216 536.8785 532.2501 536.8785 540.6007 532.2501 539.0637

Columns 287 through 299

532.2501 551.8384 532.2503 575.9422 567.6133 533.7873 559.4721 533.7874 532.2501 577.9178 532.2501 567.6134 532.2501

Columns 300 through 312

561.2167 539.0637 552.6587 532.2501 561.2167 539.0636 575.0815 539.0635 543.6920 532.2502 539.0636 568.0301 533.7874

Columns 313 through 325

564.5004 532.2501 539.0637 540.8082 532.2501 532.2501 532.2501 539.0637 551.8388 532.2501 575.0817 532.2502 551.8389

Columns 326 through 338

533.7875 584.2708 543.6919 533.7875 543.6919 539.0637 532.2501 568.2682 532.2503 566.0376 540.6009 542.3454 532.2503

Columns 339 through 351

539.0637 547.6216 543.6919 533.7873 540.8082 533.7873 532.2501 539.0635 609.5130 533.7875 575.0817 540.6007 540.6009

Columns 352 through 364

533.7874 569.1288 584.2708 533.7873 533.7875 551.8388 533.7873 539.0637 536.8784 584.2708 547.6216 539.0636 533.7875

Columns 365 through 377

532.2503 532.2501 540.6008 532.2501 564.5004 532.2502 539.0635 572.8511 532.2501 532.2501 543.6919 568.2683 532.2501

Columns 378 through 390

540.6009 568.0301 594.3640 533.7873 582.7336 576.1713 568.2682 564.5004 567.6134 533.7873 540.6007 532.2501 532.2501

Columns 391 through 403

536.8786 567.6133 532.2502 532.2501 568.2681 551.8384 540.6009 532.2501 568.0301 552.6588 540.6009 532.2501 532.2502

Columns 404 through 416

582.7335 547.6216 582.7335 539.0636 540.8082 543.6919 568.2683 533.7873 584.2708 533.7874 532.2501 540.8082 532.2501

Columns 417 through 429

582.7335 532.2501 532.2501 536.8785 539.0637 532.2501 532.2501 536.8786 540.6009 539.0637 532.2501 543.6919 589.7357

Columns 430 through 442

540.6007 536.8786 536.8786 582.7335 540.8082 532.2501 545.4365 552.6587 539.0637 543.6919 539.0637 532.2502 584.2709

Columns 443 through 455

532.2501 536.8785 564.5004 532.2503 532.2501 540.6009 559.4722 532.2502 533.7875 566.0376 564.5004 552.2500 582.7335

Columns 456 through 457

574.4267 536.8786

subOptimalControllerPositions =

4 12 24 20

**M=100,beta=0.95**

x =

Columns 1 through 13

10.0000 10.0000 9.5000 9.0250 8.5738 8.1451 7.7378 7.3509 6.9834 6.6342 6.3025 5.9874 5.6880

Columns 14 through 26

5.4036 5.1334 4.8767 4.6329 4.4013 4.1812 3.9721 3.7735 3.5849 3.4056 3.2353 3.0736 2.9199

Columns 27 through 39

2.7739 2.6352 2.5034 2.3783 2.2594 2.1464 2.0391 1.9371 1.8403 1.7482 1.6608 1.5778 1.4989

Columns 40 through 52

1.4240 1.3528 1.2851 1.2209 1.1598 1.1018 1.0467 0.9944 0.9447 0.8974 0.8526 0.8099 0.7694

Columns 53 through 65

0.7310 0.6944 0.6597 0.6267 0.5954 0.5656 0.5373 0.5105 0.4849 0.4607 0.4377 0.4158 0.3950

Columns 66 through 78

0.3752 0.3565 0.3387 0.3217 0.3056 0.2904 0.2758 0.2620 0.2489 0.2365 0.2247 0.2134 0.2028

Columns 79 through 91

0.1926 0.1830 0.1738 0.1652 0.1569 0.1491 0.1416 0.1345 0.1278 0.1214 0.1153 0.1096 0.1041

Columns 92 through 104

0.0989 0.0939 0.0892 0.0848 0.0805 0.0765 0.0727 0.0691 0.0656 0.0623 0.0592 0.0562 0.0534

Columns 105 through 117

0.0508 0.0482 0.0458 0.0435 0.0413 0.0393 0.0373 0.0354 0.0337 0.0320 0.0304 0.0289 0.0274

Columns 118 through 130

0.0261 0.0248 0.0235 0.0223 0.0212 0.0202 0.0192 0.0182 0.0173 0.0164 0.0156 0.0148 0.0141

Columns 131 through 143

0.0134 0.0127 0.0121 0.0115 0.0109 0.0104 0.0098 0.0093 0.0089 0.0084 0.0080 0.0076 0.0072

Columns 144 through 156

0.0069 0.0065 0.0062 0.0059 0.0056 0.0053 0.0050 0.0048 0.0046 0.0043 0.0041 0.0039 0.0037

Columns 157 through 169

0.0035 0.0033 0.0032 0.0030 0.0029 0.0027 0.0026 0.0025 0.0023 0.0022 0.0021 0.0020 0.0019

Columns 170 through 181

0.0018 0.0017 0.0016 0.0016 0.0015 0.0014 0.0013 0.0013 0.0012 0.0011 0.0011 0.0010

y =

Columns 1 through 13

889.8988 567.6134 539.0636 575.0817 701.2884 647.9745 540.8082 729.8215 567.3989 668.4984 603.1422 778.3271 536.8785

Columns 14 through 26

539.0635 559.4721 589.7357 595.5090 539.0637 660.2510 568.2683 599.8635 656.9799 602.3224 582.7335 533.7873 582.7335

Columns 27 through 39

625.4642 603.1421 627.0408 532.2501 539.0637 539.0635 533.7875 536.8784 532.2501 669.9148 574.4266 636.0890 540.6008

Columns 40 through 52

658.7410 658.7410 582.7335 589.7357 621.5879 707.0393 551.8384 636.0888 698.3919 584.2708 568.2683 532.2503 582.7335

Columns 53 through 65

618.7516 575.9422 567.6134 577.9180 587.3620 582.7335 606.6769 620.2512 582.7336 582.7335 539.0637 591.2729 582.7336

Columns 66 through 78

536.8784 647.9745 696.7865 634.5518 625.0988 575.0816 603.1422 584.2708 533.7873 587.3619 627.6219 571.1046 658.7410

Columns 79 through 91

532.2501 539.0636 532.2501 587.3620 533.7875 628.5900 629.5288 566.0376 589.7357 660.2510 582.7335 627.0641 574.4267

Columns 92 through 104

618.0967 627.6219 621.5878 567.3989 676.6603 620.2507 577.9179 559.4722 571.1044 609.5130 536.8786 532.2503 584.2708

Columns 105 through 117

532.2502 533.7874 559.4721 539.0635 599.8635 571.1044 540.6008 547.6216 582.7335 587.3620 618.0968 532.2502 729.1267

Columns 118 through 130

542.3454 627.6219 612.0187 626.2534 610.6574 542.3454 532.2501 577.9180 532.2501 591.2729 584.2709 603.1421 577.9178

Columns 131 through 143

536.8785 532.2501 622.9411 625.6957 564.5004 654.9604 700.7254 618.0967 691.6393 532.2502 656.9799 644.1109 574.4267

Columns 144 through 156

591.2729 532.2502 594.3640 620.8084 589.7357 599.8635 564.5004 584.2708 539.0636 697.5953 749.2061 676.6605 707.0393

Columns 157 through 169

626.2534 539.0636 685.2964 540.6008 533.7875 552.6586 532.2501 738.4289 571.3138 577.9178 574.4268 552.2500 618.0967

Columns 170 through 181

663.3694 572.8511 532.2501 626.4849 540.8082 547.6216 536.8786 540.8082 618.7516 561.2167 587.3620 702.4109

subOptimalControllerPositions =

22 13 17 10