--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[6] -- Charlie Ang Analysis

[ 2, 3], [ 12, 30], [ 40, 50], [ 5, 1], [ 12, 10], [ 3, 4]

Brute Force

The smallest distance is 1.414214 --> P0[ 2, 3] : P5[ 3, 4]

--> 15 point-to-point distance calculations

Divide & Conquer

The smallest distance is 1.414214 --> P0[ 2, 3] : P5[ 3, 4]

--> 6 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang

--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[6] -- Charlie Ang Analysis

[ 1, 1], [ 2, 5], [ 15, 1], [ 16, 1], [ 36, 4], [ 39, 1]

Brute Force

The smallest distance is 1.000000 --> P2[ 15, 1] : P3[ 16, 1]

--> 15 point-to-point distance calculations

Divide & Conquer

The smallest distance is 1.000000 --> P3[ 16, 1] : P2[ 15, 1]

--> 7 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang

--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[6] -- Charlie Ang Analysis

[ 1, 1], [ 2, 5], [ 15, 1], [ 23, 1], [ 36, 4], [ 39, 1]

Brute Force

The smallest distance is 4.123106 --> P0[ 1, 1] : P1[ 2, 5]

--> 15 point-to-point distance calculations

Divide & Conquer

The smallest distance is 4.123106 --> P0[ 1, 1] : P1[ 2, 5]

--> 6 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang

--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[6] -- Charlie Ang Analysis

[ 1, 1], [ 2, 24], [ 15, 1], [ 23, 1], [ 36, 4], [ 39, 1]

Brute Force

The smallest distance is 4.242640 --> P4[ 36, 4] : P5[ 39, 1]

--> 15 point-to-point distance calculations

Divide & Conquer

The smallest distance is 4.242640 --> P4[ 36, 4] : P5[ 39, 1]

--> 6 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang

--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[100] -- Charlie Ang Analysis

[ 38, 719], [ 238, 437], [ 855, 797], [ 365, 285], [ 450, 612], [ 853, 100],

[ 142, 281], [ 537, 921], [ 945, 285], [ 997, 680], [ 976, 891], [ 655, 906],

[ 457, 323], [ 881, 240], [ 725, 278], [ 446, 590], [ 840, 587], [ 907, 237],

[ 611, 617], [ 456, 867], [ 533, 878], [ 223, 887], [ 597, 584], [ 212, 111],

[ 578, 66], [ 629, 404], [ 279, 505], [ 388, 649], [ 329, 176], [ 331, 264],

[ 114, 136], [ 928, 102], [ 652, 404], [ 337, 856], [ 598, 772], [ 97, 213],

[ 683, 703], [ 260, 942], [ 747, 375], [ 871, 4], [ 673, 152], [ 819, 504],

[ 239, 186], [ 804, 937], [ 23, 335], [ 533, 393], [ 20, 574], [ 983, 961],

[ 624, 65], [ 569, 830], [ 167, 236], [ 249, 636], [ 619, 727], [ 700, 323],

[ 922, 774], [ 811, 62], [ 565, 191], [ 119, 747], [ 50, 620], [ 334, 968],

[ 524, 577], [ 46, 531], [ 458, 272], [ 530, 134], [ 581, 435], [ 667, 160],

[ 814, 642], [ 976, 527], [ 823, 94], [ 768, 244], [ 824, 21], [ 807, 296],

[ 726, 263], [ 640, 62], [ 47, 80], [ 747, 328], [ 113, 183], [ 759, 743],

[ 891, 494], [ 361, 133], [ 572, 651], [ 254, 470], [ 19, 974], [ 821, 822],

[ 910, 452], [ 248, 156], [ 911, 475], [ 436, 719], [ 388, 255], [ 447, 840],

[ 854, 493], [ 755, 841], [ 204, 167], [ 816, 556], [ 1, 927], [ 214, 551],

[ 83, 279], [ 674, 846], [ 14, 799], [ 665, 537]

Brute Force

The smallest distance is 10.000000 --> P40[ 673, 152] : P65[ 667, 160]

--> 4950 point-to-point distance calculations

Divide & Conquer

The smallest distance is 10.000000 --> P65[ 667, 160] : P40[ 673, 152]

--> 134 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang

--------------Closest Points in a plane analysis: Charlie Ang--------------

Points[1000] -- Charlie Ang Analysis

[ 38,7719], [1238,2437], [8855,1797], [8365,2285], [ 450, 612], [5853,8100],

[1142, 281], [ 537,5921], [8945,6285], [2997,4680], [ 976,1891], [1655,5906],

[8457,1323], [8881,2240], [9725,2278], [2446, 590], [ 840,8587], [6907,1237],

[3611,2617], [2456, 867], [9533,6878], [8223,7887], [1597, 584], [2212,1111],

[7578,7066], [7629,9404], [2279,3505], [4388,1649], [2329,7176], [2331,9264],

[2114,4136], [6928,1102], [1652,8404], [4337,7856], [5598,4772], [4097,3213],

[4683,6703], [5260,5942], [2747,7375], [8871,8004], [6673,3152], [1819,3504],

[ 239,4186], [2804,8937], [3023, 335], [ 533,1393], [6020,1574], [5983,3961],

[ 624,7065], [7569,2830], [4167,2236], [1249,3636], [5619,5727], [2700,4323],

[4922,2774], [6811,2062], [3565,5191], [ 119,8747], [6050,9620], [6334,5968],

[7524,3577], [5046,5531], [4458,9272], [6530,2134], [2581, 435], [1667,9160],

[6814,9642], [ 976,2527], [3823,1094], [1768,9244], [3824,4021], [ 807,9296],

[6726,4263], [3640,1062], [9047,5080], [ 747,5328], [ 113,1183], [6759,2743],

[6891,1494], [7361,9133], [8572,8651], [8254,8470], [3019,3974], [8821, 822],

[1910,1452], [ 248,2156], [9911,3475], [6436, 719], [6388,1255], [3447,8840],

[8854,6493], [4755,1841], [6204,6167], [4816,6556], [2001,5927], [ 214,4551],

[9083,2279], [1674,4846], [7014,1799], [6665,5537], [2560,6952], [5875, 360],

[ 86,5850], [ 522,1733], [9455, 257], [5468,9097], [8775,2141], [8940,9177],

[5743, 281], [6616,9122], [2147,2612], [ 391,8523], [9132,1695], [ 65,9306],

[1175,5879], [1027,4233], [4053, 947], [8482,9162], [7701,3744], [3456,2745],

[4591,6859], [2814,1313], [5794,2654], [4065,6018], [2577,6783], [8888, 594],

[7208,8405], [1676,4497], [9334, 477], [8120,7025], [2630, 252], [1372,2245],

[1966,1061], [6157,2489], [ 859,2110], [8575,1940], [4364, 926], [ 693,1897],

[4415,2089], [9992,2660], [5081,4896], [8311,6979], [7978,6354], [6958,3698],

[3136,3703], [3258,5643], [7723,2383], [1803,6526], [3009,9190], [2475,9502],

[8578,8251], [3854,1884], [3102,2754], [7035,6952], [ 54,5782], [2298,1637],

[ 1,8115], [8126,9517], [7232,6323], [6532,8965], [9588, 726], [9453,4193],

[6478,2088], [5529,6267], [6727,4894], [7572, 752], [1857,7361], [1910,4619],

[1806,6910], [9093,1207], [ 112,2493], [ 126,4335], [6912,5905], [5364, 840],

[1426,6063], [5336,2610], [7801,1330], [8937,1402], [8135,7071], [8701,9508],

[7192,7540], [2609,3719], [3680,2518], [9998,3801], [3234,2236], [4077,4621],

[1203,8870], [1101,5449], [8222,2002], [5314,1581], [4536,5679], [5711,8561],

[2487,2339], [2199,5695], [6687,1851], [2113,2065], [5149,2466], [4234,5579],

[7943,6387], [5551,8092], [8516,3538], [1291,1314], [6392,5608], [1950,4684],

[6403,3341], [8751,2691], [1451,5932], [7411,1291], [3958,9313], [1823,9654],

[7036,1605], [1194,3067], [3100,3742], [5654,3205], [3295,3984], [ 641,5006],

[4378,1593], [2759,5102], [7960,9596], [4042, 591], [2295,3900], [8548,8659],

[6273,4395], [2060,3047], [9822,3779], [4808, 25], [6072,3861], [6018,7721],

[1919,6945], [1102,4860], [2062,3749], [9211,2599], [ 382,8681], [7064,3962],

[4633,1770], [8920,2266], [9570,3621], [7529,9827], [5091,9303], [4226,2158],

[3287,1539], [3019,8784], [9897,4035], [6833,1779], [ 844,9154], [ 298,8505],

[1325,3706], [5381,3933], [ 614,4122], [1046,2797], [7125,3722], [2769,9349],

[1964,8417], [5077,9005], [7673,8471], [4811,3031], [8697,4359], [3807,9297],

[8297,2663], [2990,6002], [ 877,3419], [6752,1794], [6308,1462], [7913,3690],

[8604,4899], [9802,6207], [2594,2164], [6413,2025], [1581,1240], [1601,3161],

[8540,7602], [7666,2314], [2156,5512], [2781,4630], [5806,4329], [9554,2764],

[9689,4290], [ 539,3777], [2524, 819], [2972,4326], [6871, 573], [4988,2952],

[4650,6159], [8083,6557], [7821,8242], [1300,4493], [ 354,7521], [8509,5503],

[ 904,7005], [2108,2007], [ 642,5344], [ 693,4988], [6712,2288], [1681,5966],

[9163,2391], [1369,1607], [9070,5600], [6515,4257], [1652,2660], [7884,2521],

[1221,9847], [8327,1059], [8837,4172], [6005,1407], [2246,2352], [2213,5578],

[5772, 533], [2446,3367], [2513,7741], [2299,6799], [6331,9147], [5782,1847],

[8923,9780], [5320,2738], [2872,5435], [1631,7270], [6843,2446], [8929,3379],

[5083,5851], [5153,3841], [1852,3799], [1776,4729], [2308, 912], [9333,1911],

[7726,5873], [7232,8878], [7187,7478], [1835,4669], [8517, 577], [ 594, 705],

[2333,4444], [8709,1467], [ 888,6704], [7611,1667], [2174,3206], [1129,8237],

[7156,2331], [6036,7467], [8882,7081], [2211, 707], [5814,7252], [5113,1731],

[ 266, 594], [9793,3010], [4468,9727], [8090,4632], [7741,6463], [1445,1857],

[9621,2021], [7133,7533], [7941, 308], [2055,5036], [5028, 436], [5721,8729],

[7806,4760], [9344, 388], [8609,7341], [5597,4580], [8858,2357], [1792, 349],

[7296, 469], [1815,6222], [6015,6156], [9576, 190], [2136, 997], [1278,5049],

[1127,8046], [6849, 757], [1334,6570], [8121,8682], [ 608,2020], [3635,9361],

[2471,4181], [2133,6347], [2698,3448], [ 143,3478], [2049,2012], [4034,8572],

[6059,7770], [4710,4300], [3131, 503], [7622,5213], [2462,2428], [2911,2464],

[5840,6229], [6010,6118], [ 800, 358], [ 933,2114], [ 433,6244], [ 888,7343],

[3506, 739], [6262,9733], [2144,7836], [ 803,8936], [ 457,6210], [8630, 866],

[ 133,4453], [1999, 419], [9121, 118], [2282,7766], [5612,5340], [3188,2293],

[5574,5318], [8957,9215], [1749,9042], [ 127,4809], [6681,5150], [ 47,9763],

[3827,4621], [9201,7037], [6546,1500], [2224,3273], [ 734,1653], [6798,8290],

[7496,7364], [6105, 350], [3313,4104], [2784,2624], [4106, 332], [4532,3473],

[7884,8519], [ 834,1216], [9609,8256], [2191,7527], [8947,3318], [7333,6752],

[2572, 480], [6558,4824], [ 893,3488], [4366,7843], [3195,2765], [5702,1680],

[4439,6993], [7877,2222], [2020,2256], [ 194,9311], [6526, 426], [5016,7660],

[6122,3987], [1873,7529], [3880,6385], [1558,4427], [8768,6181], [ 101,5527],

[3868,1774], [9141,5020], [1042,8346], [9798,2068], [ 86,8911], [8108, 359],

[1389,6457], [3118,8929], [2036, 949], [1241,7701], [9266,1389], [7371,7586],

[8907,9476], [2029,7797], [4583,5685], [8736,7007], [6818,5367], [1051,8232],

[9541, 180], [1763,6835], [1413,1802], [1373,6004], [6267,7265], [2352,7840],

[ 532,6078], [6335,9060], [8538,1863], [7141,6057], [4370,5288], [9921,1526],

[8679,6726], [7445,1430], [8663,9090], [8281, 44], [4716, 528], [9605,4612],

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[2650, 233], [8744,1846], [ 679,9717], [7435,2743], [3402,9393], [1388,1511],

[9459,3737], [8343,4418], [ 736,2937], [8740,2880], [ 985,3653], [3083, 327],

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[3840, 163], [2259,9967], [3078,1662], [ 366, 503], [9326,9906], [4236,6081],

[6519,9910], [1990,4126], [1244,7414], [2440,8814], [ 619, 201], [5680,7446],

[2808,6402], [9044, 464], [7395,1268], [4104,6932], [5463,8297], [1408,1414],

[4021,1092], [1587, 512], [3985,8630], [7217,2849], [7434,7998], [1286,4150],

[1216,7284], [4959,2728], [7505,3912], [2188,1670], [2437,4774], [1719,9460],

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[9218,5212], [5101,7771], [ 834,4410], [1498,2064], [4525,8887], [6423, 141],

[1814,9452], [ 296,5818], [5189,2145], [9974,7830], [6444,4590], [7626,2011],

[6380,4161], [6491,2787], [ 584,8351], [3859,2570], [6410, 926], [3961, 822],

[2213,5938], [4907, 293], [2092,6582], [ 873,9894], [4593, 798], [2426,4203],

[9711,6923], [1241, 396], [7996,1135], [8752, 480], [5818,8913], [3272,6552],

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[3203,1771], [6141,1146], [1642,9814], [1178,7215], [5789,9020], [9511,8912],

[1893,2216], [9870,3707], [2932,7099], [3308,9452], [3620, 657], [2511,8166],

[1904, 657], [4015,2016], [1265,8182], [4257,8413], [4443,1820], [8314,9361],

[9673,3484], [6561,5793], [ 502,4316], [7033,6522], [5821,7424], [7629,8244],

[1796,6838], [5965,7112], [8485,1713], [6984,8944], [7133,1971], [5242,4751],

[1544,3617], [ 728,8641], [ 765, 66], [7273, 323], [7381,6680], [3223,9718],

[6530, 194], [2614,8832], [9454,1473], [7781,3956], [8242,4985], [1635,2083],

[1736,8346], [9300,3091], [6482,1472], [9204,2031], [1628, 840], [ 378,5391],

[9951,1349], [8385,5049], [5448,8321], [ 451,1016], [2153,5543], [ 551,2844],

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[7378,5488], [2617,6387], [4616,2223], [4468,6457], [8936,7602], [7501,2625],

[5483,1792], [4824,8557], [9140,5019], [1331,1342], [5684,7984], [7217,2690],

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[2447,8694], [8175, 441], [6862,8293], [6622,7733], [2283, 698], [4664,9756],

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[9467,1415], [4217,6607], [8316,4055], [9814,4360], [1074,2006], [2142,7000],

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[ 519,9826], [8139,1977], [4881,8738], [ 515,7108], [4357, 757], [ 97,3285],

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[4401,4161], [3576,5645], [9522,3711], [ 581, 301], [ 791,8677], [9944,8599],

[8436,1795], [ 192,8538], [1945,3466], [6074,6098], [ 788,6673], [6209,5530],

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[ 114,3506], [1836,8766], [ 124,9510], [ 412,4750], [1369,1601], [1746,1860],

[2573,9562], [7963,9083], [1360,1877], [7435, 680], [1686,4104], [5456,8923],

[ 161,2525], [9085, 242], [3398,7496], [5654,6142], [9981,8809], [3991,7881],

[9917,1508], [5722, 728], [1480,9823], [6745, 190], [4482,5083], [7328,9874],

[9096,5719], [ 935,8274], [2351,3505], [9759,1559], [6634,9886], [7530,1178],

[2048,3581], [6512,2904], [ 780,7767], [5839,4882], [ 711,1001], [2146,6408],

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[8627,6422], [6745,6893], [7667,4348], [5088,1383], [5391,5951], [7408,6078],

[3206,2643], [6009,9297], [2113,3967], [7178,9191], [8373,9821], [9839, 744],

[3852,6707], [1371,8640], [8742,6018], [9142, 976], [ 44,5854], [9001,2598],

[9062,8399], [ 792,4094], [1277,7560], [1070,6296], [1859,2743], [4160, 348],

[1874,1500], [2954,5324], [2291,3805], [4927,1145], [8704,1481], [2576,7880],

[8780,7244], [3162,4533], [8113,8226], [ 980,2425], [2217,3263], [ 857,8409],

[8465,2015], [8708,1967], [3099,2265], [ 969,1421], [5268,9817], [4556,1599],

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[4423,7986], [ 911,8363], [5710,4718], [6165,5352], [8454,6856], [7342,4903],

[9422,9572], [ 769,5232], [4460,3440], [8910,9988], [3566,9246], [ 50,2622],

[2948,9541], [1112,6089], [8940,2885], [3490,9234], [6157,9882], [1176,8415],

[4136,8195], [2144,7232], [7595,6083], [5038, 773], [5208,2279], [7662,6177],

[ 759,3898], [ 560,1901], [4519,8038], [ 323,8752], [7482,9851], [2694,6125],

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[4350, 855], [6036, 322], [1973,8325], [2957, 506], [8984,8047], [9505,5752],

[4796, 57], [2225,4364], [8770,4302], [6957,1109], [5054,6610], [4842,1382],

[5258,6854], [4245, 822], [5388,2924], [4006,8986], [3397,6395], [3927,9895],

[2715,2437], [5127,2067], [7929,6007], [4650, 251], [3685,9024], [1716,4235],

[7907,7798], [3542,3081], [ 392,4950], [1976,1266], [7442,3866], [7624,5065],

[5094,7152], [7346,1181], [9481,1128], [4400,4459], [6883,4462], [4515,4180],

[9217,1098], [5923,1041], [5227,2084], [2163,1987], [6053,5051], [3113,1007],

[8665,7623], [6701,6603], [6900,3693], [2479, 34], [6544,5908], [1662,3374],

[2947,9446], [ 326,6983], [7606,4905], [1642,9014], [7304,8143], [4275,5151],

[9908, 426], [1575, 719], [7200,1204], [7357, 785], [ 375,8542], [5472,3448],

[ 890,2759], [6658,4840], [8450,5712], [ 51,2773]

Brute Force

The smallest distance is 1.414214 --> P445[9141,5020] : P686[9140,5019]

--> 499500 point-to-point distance calculations

Divide & Conquer

The smallest distance is 1.414214 --> P686[9140,5019] : P445[9141,5020]

--> 1121 point-to-point distance calculations

-----------------------------------------------------------------Charlie Ang