*** n=100

InpType1

Input1 (average)= [850, 664, 351, 50, 635, 798, 378, 443, 992, 743, 921, 449, 314, 840, 335, 123, 595, 980, 361, 368, 275, 908, 669, 613, 353, 717, 574, 86, 371, 457, 991, 85, 143, 711, 419, 371, 44, 327, 37, 87, 486, 229, 455, 401, 294, 156, 505, 526, 728, 890, 950, 200, 454, 967, 827, 559, 273, 658, 578, 318, 793, 673, 378, 52, 306, 656, 952, 594, 228, 662, 571, 232, 61, 89, 278, 17, 75, 85, 270, 385, 45, 919, 106, 935, 660, 287, 391, 726, 524, 1000, 362, 32, 290, 966, 659, 423, 317, 876, 654, 463]

Input2 (average)= [783, 815, 768, 495, 637, 863, 623, 228, 744, 615, 23, 467, 611, 473, 887, 909, 364, 387, 32, 678, 681, 352, 329, 204, 37, 338, 546, 436, 376, 894, 270, 383, 766, 400, 562, 516, 175, 867, 779, 133, 220, 432, 196, 237, 620, 35, 941, 819, 892, 417, 117, 50, 564, 473, 456, 630, 610, 150, 665, 833, 466, 439, 336, 97, 341, 496, 737, 805, 318, 639, 939, 218, 501, 160, 525, 729, 515, 801, 142, 919, 181, 253, 732, 943, 450, 406, 760, 404, 583, 375, 627, 729, 437, 777, 99, 46, 846, 760, 786, 985]

Input3 (average)= [165, 293, 994, 227, 682, 353, 833, 582, 775, 951, 130, 500, 688, 67, 583, 758, 764, 313, 778, 399, 740, 88, 612, 96, 549, 174, 939, 490, 135, 355, 48, 27, 164, 932, 679, 832, 356, 967, 241, 859, 229, 811, 107, 206, 498, 387, 978, 449, 293, 986, 200, 625, 265, 580, 605, 561, 260, 902, 680, 605, 528, 854, 993, 375, 635, 936, 905, 682, 382, 406, 894, 232, 693, 294, 320, 126, 398, 678, 707, 315, 895, 147, 825, 583, 579, 383, 407, 161, 937, 935, 750, 132, 182, 97, 685, 852, 863, 84, 270, 985]

Input4 (average)= [583, 135, 333, 150, 555, 760, 580, 764, 898, 617, 261, 534, 960, 849, 870, 963, 412, 210, 526, 622, 498, 407, 826, 708, 246, 281, 4, 985, 410, 372, 292, 58, 594, 192, 162, 603, 851, 812, 543, 513, 512, 737, 121, 390, 214, 287, 628, 378, 90, 650, 248, 40, 869, 886, 572, 493, 656, 716, 178, 930, 863, 699, 418, 306, 59, 306, 595, 585, 548, 584, 886, 792, 401, 584, 326, 453, 605, 723, 630, 843, 523, 194, 863, 348, 91, 417, 107, 881, 113, 934, 563, 946, 503, 345, 70, 840, 135, 306, 478, 539]

Input5 (average)= [906, 849, 52, 644, 407, 770, 555, 259, 686, 340, 782, 742, 667, 663, 179, 928, 488, 892, 301, 722, 844, 918, 297, 6, 667, 882, 125, 272, 857, 942, 919, 222, 236, 925, 280, 390, 713, 131, 731, 524, 163, 720, 587, 373, 326, 828, 989, 141, 22, 682, 104, 49, 529, 677, 201, 181, 239, 169, 644, 885, 828, 88, 541, 542, 902, 578, 721, 62, 923, 831, 540, 245, 507, 323, 927, 969, 266, 192, 978, 681, 864, 857, 473, 158, 381, 450, 617, 745, 109, 142, 167, 743, 732, 785, 697, 455, 992, 642, 67, 365]

Input (worst)= [13, 15, 25, 35, 51, 52, 52, 56, 57, 70, 80, 99, 99, 136, 139, 152, 155, 178, 184, 196, 204, 204, 222, 224, 231, 244, 261, 266, 268, 270, 273, 273, 289, 291, 296, 309, 326, 329, 341, 360, 373, 387, 389, 389, 409, 420, 422, 440, 453, 456, 460, 475, 486, 533, 540, 569, 577, 631, 638, 645, 659, 663, 675, 693, 694, 702, 708, 713, 720, 722, 739, 744, 747, 765, 783, 785, 787, 808, 808, 812, 813, 820, 845, 858, 862, 877, 882, 882, 885, 894, 905, 906, 916, 922, 933, 943, 951, 962, 973, 993]

Ver1 Average= 73720.0
Ver1 Worst= 201300.0
Ver2 Average= 101560.0
Ver2 Worst= 93500.0
Ver3 Average= 71740.0
Ver3 Worst= 70300.0

Ver4 Average= 78880.0
Ver4 Worst= 76000.0

InpType2
Input1 (average)= [28, 50, 1, 20, 21, 40, 36, 24, 24, 70, 53, 49, 25, 69, 6, 64, 66, 64, 35, 40, 72, 54, 39, 45, 20, 22, 13, 2, 39, 20, 20, 35, 61, 44, 56, 4, 21, 50, 70, 6, 70, 47, 45, 53, 47, 24, 28, 21, 21, 3, 52, 9, 28, 42, 54, 30, 3, 53, 31, 55, 4, 66, 22, 50, 1, 64, 47, 56, 72, 51, 7, 25, 32, 19, 13, 74, 27, 5, 52, 60, 51, 61, 29, 70, 64, 52, 45, 8, 20, 60, 50, 52, 44, 23, 58, 28, 26, 37, 24, 36]
Input2 (average)= [28, 2, 28, 26, 58, 24, 67, 30, 21, 19, 39, 25, 60, 27, 70, 54, 18, 55, 26, 12, 47, 32, 12, 66, 15, 27, 18, 37, 46, 63, 13, 6, 15, 10, 41, 56, 36, 47, 9, 59, 44, 49, 73, 49, 47, 4, 27, 36, 25, 66, 13, 18, 33, 30, 14, 35, 39, 56, 25, 21, 57, 55, 66, 22, 19, 54, 43, 57, 17, 52, 15, 70, 13, 9, 37, 73, 74, 36, 37, 23, 59, 13, 10, 2, 42, 2, 44, 10, 54, 72, 49, 44, 58, 46, 46, 53, 39, 9, 70, 73]
Input3 (average)= [67, 39, 37, 16, 19, 4, 28, 6, 24, 49, 48, 73, 66, 9, 3, 67, 12, 25, 53, 64, 11, 18, 62, 12, 19, 8, 69, 67, 64, 73, 38, 45, 69, 58, 64, 10, 41, 34, 65, 35, 33, 50, 18, 56, 50, 13, 43, 42, 51, 3, 30, 21, 41, 59, 4, 37, 11, 47, 3, 61, 55, 72, 61, 25, 22, 50, 10, 33, 63, 47, 27, 35, 29, 29, 58, 19, 41, 1, 21, 35, 38, 28, 1, 41, 34, 19, 29, 27, 69, 40, 65, 64, 48, 33, 49, 7, 50, 23, 59, 17]
Input4 (average)= [49, 15, 73, 62, 51, 72, 64, 24, 71, 49, 12, 56, 7, 49, 30, 56, 19, 33, 7, 26, 43, 10, 51, 59, 53, 32, 21, 37, 33, 33, 11, 69, 70, 35, 27, 19, 63, 56, 20, 55, 39, 24, 71, 65, 13, 15, 48, 38, 71, 74, 38, 65, 71, 59, 2, 19, 48, 53, 43, 26, 68, 71, 40, 24, 33, 28, 57, 57, 51, 70, 73, 18, 10, 1, 29, 57, 51, 16, 37, 38, 65, 6, 22, 20, 15, 21, 53, 21, 63, 52, 54, 36, 28, 28, 46, 46, 65, 54, 16, 7]
Input5 (average)= [10, 25, 2, 6, 26, 17, 5, 67, 75, 70, 70, 3, 36, 12, 43, 51, 24, 4, 23, 35, 2, 16, 51, 28, 62, 74, 14, 30, 64, 50, 34, 27, 45, 60, 50, 59, 65, 28, 38, 32, 48, 7, 74, 14, 74, 48, 56, 63, 61, 52, 41, 29, 21, 55, 36, 59, 22, 59, 14, 65, 10, 13, 42, 65, 58, 4, 47, 39, 11, 66, 46, 9, 27, 37, 65, 72, 14, 39, 4, 34, 18, 19, 3, 65, 39, 70, 33, 37, 33, 49, 50, 14, 40, 72, 67, 43, 52, 15, 39, 74]
Input (worst)= [1, 2, 2, 4, 6, 6, 7, 8, 9, 9, 9, 10, 10, 10, 11, 11, 12, 12, 13, 13, 14, 14, 16, 16, 17, 17, 18, 19, 21, 22, 24, 24, 24, 25, 25, 26, 28, 29, 29, 30, 31, 32, 33, 33, 34, 35, 36, 37, 38, 38, 39, 39, 39, 39, 39, 40, 40, 40, 41, 41, 43, 44, 44, 45, 46, 48, 48, 49, 49, 50, 51, 51, 51, 51, 53, 54, 54, 56, 58, 59, 60, 61, 62, 63, 63, 65, 66, 67, 67, 67, 68, 68, 68, 69, 70, 71, 71, 73, 75]

Ver1 Average= 72820.0
Ver1 Worst= 108400.0
Ver2 Average= 102100.0
Ver2 Worst= 96200.0
Ver3 Average= 72480.0
Ver3 Worst= 70300.0
Ver4 Average= 88400.0
Ver4 Worst= 77700.0

InpType3
Input1 (average)= [10, 15, 7, 22, 6, 24, 12, 25, 17, 17, 23, 23, 25, 13, 24, 7, 15, 4, 20, 9, 13, 5, 19, 13, 22, 21, 7, 19, 9, 20, 2, 7, 2, 24, 15, 22, 20, 4, 15, 22, 11, 25, 25, 25, 25, 25, 22, 25, 8, 1, 6, 9, 23, 12, 20, 2, 24, 13, 9, 22, 15, 15, 20, 11, 16, 25, 14, 4, 24, 18, 6, 11, 23, 16, 22, 19, 16, 19, 13, 8, 13, 3, 23, 10, 14, 25, 10, 20, 21, 2, 13, 19, 8, 20, 5, 5, 13, 7, 25]
Input2 (average)= [15, 11, 17, 14, 21, 23, 7, 8, 24, 14, 22, 2, 23, 25, 4, 25, 3, 4, 7, 8, 16, 4, 23, 12, 22, 22, 14, 6, 12, 22, 19, 19, 2, 16, 9, 20, 2, 10, 21, 25, 11, 25, 7, 21, 14, 13, 7, 21, 10, 1, 15,

6, 17, 2, 15, 6, 12, 19, 20, 5, 3, 4, 2, 4, 15, 5, 14, 9, 11, 16, 24, 8, 8, 17, 8, 16, 15, 13, 20, 15, 7, 5, 1, 15, 25, 25, 17, 25, 4, 2, 7, 2, 4, 10, 22, 8, 13, 7, 7, 19]
Input3 (average)= [5, 10, 17, 7, 1, 5, 14, 16, 19, 15, 11, 8, 8, 6, 15, 8, 16, 18, 12, 15, 19, 4, 20, 25, 15, 3, 7, 14, 14, 8, 7, 4, 22, 7, 6, 11, 18, 9, 17, 6, 10, 13, 6, 13, 10, 12, 19, 7, 8, 20, 3, 1, 20, 22, 14, 20, 13, 1, 5, 4, 20, 3, 2, 13, 13, 4, 8, 3, 4, 1, 11, 14, 18, 12, 6, 6, 4, 6, 17, 7, 17, 7, 2, 2, 1, 21, 3, 21, 20, 11, 20, 1, 15, 8, 19, 9, 19, 18, 20, 6]
Input4 (average)= [4, 10, 13, 19, 19, 3, 7, 2, 13, 25, 8, 12, 12, 16, 22, 12, 25, 13, 24, 23, 15, 14, 5, 16, 5, 9, 9, 10, 21, 12, 22, 18, 17, 22, 6, 6, 5, 20, 17, 13, 16, 9, 23, 21, 15, 12, 4, 21, 22, 2, 23, 10, 24, 17, 4, 8, 5, 3, 17, 9, 24, 19, 6, 22, 21, 3, 2, 5, 4, 4, 17, 1, 14, 15, 22, 10, 10, 6, 8, 24, 25, 22, 4, 6, 22, 25, 4, 9, 17, 2, 14, 4, 16, 14, 19, 12, 15, 7, 24, 5]
Input5 (average)= [16, 22, 11, 9, 22, 21, 3, 7, 9, 14, 7, 24, 24, 11, 15, 22, 19, 17, 3, 9, 10, 23, 24, 25, 6, 14, 22, 7, 18, 10, 13, 8, 2, 7, 13, 13, 21, 13, 1, 7, 7, 17, 19, 23, 22, 5, 8, 19, 17, 1, 18, 4, 10, 9, 7, 14, 14, 10, 6, 25, 1, 8, 8, 17, 6, 4, 1, 23, 1, 8, 11, 4, 18, 25, 23, 19, 2, 14, 7, 16, 12, 24, 1, 25, 22, 19, 14, 18, 12, 14, 13, 2, 3, 25, 21, 15, 9, 2, 22, 23]
Input (worst)= [1, 1, 1, 1, 2, 2, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5, 5, 5, 5, 5, 6, 6, 6, 6, 6, 6, 7, 7, 7, 8, 8, 8, 9, 9, 9, 10, 10, 10, 11, 11, 11, 12, 12, 13, 13, 13, 13, 14, 14, 15, 15, 15, 15, 16, 16, 16, 16, 16, 16, 16, 17, 17, 18, 18, 18, 18, 18, 18, 18, 19, 19, 19, 19, 20, 20, 20, 20, 21, 21, 21, 21, 21, 21, 22, 23, 23, 23, 24, 24, 24, 24, 24, 24, 24, 25, 25, 25]

Ver1 Average= 82400.0
Ver1 Worst= 82700.0
Ver2 Average= 117680.0
Ver2 Worst= 111000.0
Ver3 Average= 83360.0
Ver3 Worst= 79100.0
Ver4 Average= 103440.0
Ver4 Worst= 95200.0

InpType4
Input1 (average)= [1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Input2 (average)= [1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Input3 (average)= [1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Input4 (average)= [1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]
Input5 (average)= [1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]

Input (worst)= [1, 1]

Ver1 Average= 422840.0
Ver1 Worst= 421600.0
Ver2 Average= 498680.0
Ver2 Worst= 474600.0
Ver3 Average= 423320.0
Ver3 Worst= 430800.0
Ver4 Average= 453600.0
Ver4 Worst= 451200.0

*** n=1000

InpType1
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1858, 1582, 759, 1209, 1008, 818, 1830, 242, 519, 549, 681, 283, 2028, 1608, 1168, 373, 2363, 1921, 2274, 1391, 384, 362, 795, 1490, 2426, 855, 1420, 254, 685, 768, 1807, 1222, 1171, 532, 479, 103, 200, 1365, 2007, 419, 986, 336, 2194, 86, 1389, 2179, 2131, 1618, 1525, 1731, 1046, 1857, 218, 1923, 1252, 1347, 688, 2283, 2128, 740, 1993, 328, 1204, 1370, 407, 860, 1281, 2127, 1472, 1756, 1844, 1561, 913, 307, 817, 1068, 1041, 1484, 1531, 1659, 1920, 2372, 644, 1821, 2390, 2133, 2211, 192, 444, 219, 475, 121, 396, 750, 431, 1314, 2058, 709, 1147, 438, 713, 1466, 985, 1440, 12, 1533, 2270, 1441, 2391, 2243, 821, 1535, 1835, 971, 1898, 2005, 302, 130, 1494, 973, 1916, 213, 1896, 1216, 2455, 1150, 2380, 1910, 1145, 2093, 371, 1397, 1279, 2245, 819, 808, 2033, 2245, 1180, 1232, 1222, 1820, 582, 728, 1973, 998, 504, 1495, 1140, 1020, 2194, 1726, 1108, 1032, 1498, 1168, 2396, 1332, 2050, 1308, 316, 2422, 2497, 307, 328, 1006, 2072, 1583, 171, 337, 437, 333, 2239, 2029, 1744, 35, 21, 210, 2445, 2134, 676, 861, 496, 1726, 1977, 1129, 2050, 1143, 1832, 1756, 1546, 743, 569, 1456, 1712, 1989, 1688, 1467, 1283, 1813, 1946, 1742, 1945, 829, 648, 1582, 2008, 1224, 445, 515, 1725, 2090, 1434, 168, 549, 511, 2180, 432, 599, 2041, 400, 1992, 705, 119, 262, 1261, 263, 642, 510, 1889, 1049, 2158, 2005, 2271, 273, 255, 1510, 1056, 1244, 705, 2072, 1026, 131, 1925, 1371, 150, 87, 2028, 2056, 1475, 1554, 260, 4, 1145, 1631, 574, 130, 2300, 345, 1318, 1653, 1114, 1569, 1422, 1251, 693, 166, 773, 1145, 966, 1645, 1710, 2145, 1359, 1703, 1, 196, 900, 1205, 912, 436, 1406, 2035, 2281, 2031, 1954, 1457, 356, 163, 1087, 1653, 236, 1806, 1304, 1389, 706, 1944, 2100, 937, 1572, 1998, 1067, 1417, 113, 316, 608, 568, 145, 2098, 787, 1918, 718, 1602, 559, 1858, 2077, 146, 2299, 1816, 1053, 442, 377, 938, 1687, 80, 2434, 326, 552, 736, 1614, 1281, 1834, 1492, 959, 2484, 2461, 32, 1735, 2405, 570, 2449, 1958, 1478, 2447, 1276, 2053, 1470, 1577, 1112, 2397, 1934, 1140, 394, 1975, 490, 2016, 548, 2289, 1508, 1982, 2001, 471, 631, 2002, 998, 808, 726, 1932, 44, 1324, 920, 1132, 510, 1210, 865, 738, 1094, 218, 514, 827, 975, 1382, 1589, 872, 1552, 2340, 1676, 2478, 900, 512, 1835, 2089, 126, 1337, 957, 1476, 493, 310, 603, 11, 382, 1234, 1012, 1893, 1298, 968, 496, 542, 1085, 2376, 1970, 2332, 1241, 744, 261, 2187, 1415, 265, 1923, 845, 2378, 1995, 1128, 1408, 1685, 689, 1616, 2336, 821, 867, 1874, 1873, 32, 1596, 2378, 554, 1804, 931, 283, 1663, 2340, 1354, 138, 1902, 52, 563, 803, 1389, 1442, 888, 334, 2269, 1606, 1333, 1060, 1304, 1163, 73, 1856, 1730, 1914, 1942, 345, 134, 2073, 1384, 1003, 75, 439, 1685, 78, 2405, 1081, 1011, 1228, 1782, 1639, 218, 191, 2153, 768, 2253, 5, 1380, 663, 1737, 1832, 2021, 11, 421, 2010, 2251, 2218, 1514, 320, 602, 79, 1269, 698, 909, 946, 1528, 824, 778, 1869, 1398, 2232, 1507, 2447, 546, 1349, 2493, 2335, 1237, 2218, 1418, 1308, 2293, 435, 1094, 816, 2418, 1924, 783, 779, 864, 292, 1196, 1084, 1314, 1674, 1201, 1922, 860, 1760, 547, 1834, 1094, 1166, 754, 1401, 1487, 1106, 752, 2297, 2018, 260, 1157, 736, 1787, 2169, 513, 15, 2189, 1080, 1513, 628, 1399, 1681, 1659, 1297, 1265, 2338, 673, 1379, 1111, 1705, 1191, 775, 1970, 1908, 253, 94, 902, 2193, 206, 1166, 1092, 1491, 781, 2292, 1692, 835, 1048, 487, 513, 190, 2062, 1081, 1498, 1914, 211, 1373, 781, 1208, 2391, 1557, 377, 648, 2373, 2288, 1492, 1809, 460, 374, 1884, 694, 657, 2432, 189, 2465, 2166, 1098, 2298, 371, 673, 1512, 1061, 1601, 921, 1758, 1634, 1126, 1824, 1205, 634, 830, 2133, 12, 1443, 331, 1885, 125, 822, 2355, 1519, 2166, 1581, 1676, 2219, 1265, 1441, 1450, 991, 1772, 1017, 2115, 596, 2142, 1385, 1218, 2326, 1019, 1465, 2383, 2056, 535, 384, 1209, 1042, 115, 416, 444, 463, 1659, 1492, 735, 445, 883, 1009, 2297, 1236, 882, 630, 750, 121, 1388, 1092, 1962, 262, 890, 1061, 1457, 1781, 1241, 1450, 2342, 596, 503, 2101, 1117, 437, 1686, 524, 144, 1082, 989, 176, 113, 1159, 1431, 460, 1669, 940, 2224, 1359, 635, 698, 379, 2024, 2062, 2188, 1735, 1113, 813, 688, 2137, 901, 197, 79, 1871, 1309, 139, 101, 303, 1087, 1100, 379, 2476, 2269, 1552, 2187, 797, 488, 1130, 1092, 1290, 585, 1691, 1174, 1307, 227, 682, 1313, 176, 1359, 1649, 1284, 2176, 2287, 1891, 2104, 389, 846, 1351, 483, 2366, 1101, 131, 795, 1386, 1763, 647, 1613, 2018, 1555, 1287, 1671, 619,

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1520, 1405, 243, 1761, 692, 1387, 2227, 1249, 760, 1314, 2333, 1472, 1211, 1062, 65, 2068, 2402, 2453, 184, 412, 87, 181, 786, 1514, 120, 2295, 2367, 1926, 2120, 1759, 1920, 1152, 2032, 2211, 882, 1775, 1340, 1838, 1362, 1664, 1053, 1829, 1940, 1742, 1207, 2494, 2072, 1890, 1006, 128, 1287, 1016, 666, 1521, 1104, 2330, 188, 2329, 311, 249, 1599, 1637, 1694, 677, 2487, 1384, 2463, 37, 1795, 1648, 2174, 1205, 129, 1206, 1932, 607, 727, 1235, 242, 1000, 2465, 1883, 1183, 822, 1417, 2174, 1226, 2006, 1562, 790, 2163, 31, 899, 1905, 1324, 1612, 1998, 535, 2266, 890, 36, 1073, 752, 1304, 798, 425, 1294, 889, 2357, 782, 427, 558, 2094, 1484, 1918, 1918, 562, 1504, 1799, 63, 2325, 1745, 1662, 2433, 620, 227, 1035, 2016, 332, 336, 2210, 191, 1019, 163, 2490, 2326, 331, 269, 298, 183, 1023, 1904, 737, 1878, 321, 2213, 1392, 948, 1246, 1058, 2253, 1955, 59, 664, 1411, 1574, 962, 1143, 14, 1292, 1873, 1911, 1938, 1513, 1591, 2483, 2057, 371, 123, 1488, 801, 44, 2484, 2334, 1477, 1424, 75, 2149, 1254, 1285, 1616, 2239, 1110, 44, 715, 1186, 1771, 1391, 12, 640, 551, 556, 1211, 1960, 2008, 2120, 1837, 1232, 2458, 2069, 1844, 969, 795, 803, 2048, 2154, 982, 1735, 578, 2134, 2080, 1013, 225, 1485, 398, 1154, 1834, 215, 1526, 583, 637, 2319, 1928, 2366, 34, 1202, 467, 2156, 1481, 2051, 2084, 90, 1076, 2125, 61, 449, 373, 1068, 217, 1116, 2031, 1861, 864, 1663, 1706, 1827, 2175, 2432, 1412, 363, 647, 1163, 502, 588, 463, 2239, 895, 2185, 2212, 134, 1181, 1652, 412, 85, 352, 589, 2010, 1168, 2155, 1657, 1310, 1237, 1844, 1312, 82, 1228, 1714, 1766, 1856, 1829, 1064, 641, 1891, 102, 1574, 924, 439, 2074, 2302, 1480, 186, 2187, 1675, 723, 1021, 1483, 1602, 1331, 1887, 955, 402, 2388, 2204, 1295, 1462, 19, 869, 151, 762, 904, 1074, 2460, 2034, 2317, 1610, 1221, 1035, 2166, 1873, 1114, 1927, 159, 2122, 74, 2074, 1407, 1635, 1724, 1950, 1353, 1173, 1355, 1144, 2452, 220, 162, 2011, 225, 215, 691, 131, 1075, 1885, 2265, 1352, 2338, 1709, 1932, 27, 540, 380, 925, 2266, 405, 1312, 2193, 304, 2388, 521, 2217, 1421, 2276, 655, 1173, 2050, 2375, 2186, 1189, 1367, 86, 1634, 1418, 408, 2472, 959, 1109, 556, 768, 568, 1277, 1688, 2366, 1881, 2344, 1155, 2292, 42, 284, 1798, 284, 1319, 2324, 2401, 1985, 573, 1736, 2053, 1341, 1098, 2497, 220, 1567, 2329, 1265, 461, 1148, 1112, 1716, 2062, 494, 1551, 2151, 2423, 2321, 1144, 575, 1123, 111, 1320, 692, 1720, 379, 607, 2172, 2240, 470, 1049, 2296, 1751, 2099, 151, 273, 1456, 1546, 2065, 655, 1705, 1209, 1176, 1489, 592, 682, 1963, 1269, 1916, 23, 610, 463, 1275, 498, 2273, 117, 2190, 1137, 390, 46, 1198, 1041, 2404, 431, 1216, 910, 305, 1710, 965, 2327, 1829, 1657, 1105, 408, 868, 360, 1208, 625, 1991, 345, 54, 524, 822, 406, 206, 2313, 335, 785, 2356, 1959, 828, 216, 1871, 1307, 1384, 2185, 2399, 2052, 152, 302, 332, 2072, 1209, 2028, 2354, 1435, 2150, 1434, 943, 73, 1129, 1059, 363, 107, 1175, 2310, 1774, 862, 1867, 1360, 1147, 1391, 2162, 870, 1851, 826, 230, 1427, 2317, 1299, 1149, 912, 2062, 1729, 440, 1302, 1686, 1656, 1477, 673, 1598, 168, 2104, 1678, 2015, 665, 1919, 1291, 2451, 535, 2352, 1105, 758, 1255, 1915, 2312, 1590, 2037, 1761, 706, 2289, 1935, 439, 1898, 1960, 2241, 345, 453, 1474, 1646, 151, 131, 1955, 1701, 2052, 1579, 1402, 473, 299, 1176, 1482, 1376, 2018, 321, 1706, 2129, 1281, 1377, 1892, 1568, 1458, 465, 1049, 353, 2393, 2404, 1439, 1274, 1164, 62, 644, 1605, 1675, 459, 845, 1566, 180, 55, 510, 1946, 1630, 983, 421, 273, 2286, 334, 118, 1882, 1981, 2323, 1283, 1801, 2221, 578, 2230, 2069, 2327, 638, 58, 1723, 167, 1752, 1937, 401, 2416, 2195, 1106, 2167, 679, 2382, 238, 192, 1979, 1965, 1198, 2442, 1310, 457, 1839, 985, 257, 229, 2426, 290, 2105, 2218, 2169, 2027, 2029, 1954, 708, 581, 1046, 1745, 223, 1575, 463, 618, 1338, 747, 1404, 1951, 1964, 629, 358, 579, 1470, 227, 738, 85, 1814, 1567, 1062, 1161, 1035, 1962, 660, 1210, 127, 1931, 1492, 1845, 926, 1464, 1540, 305, 108, 1713, 225, 2217, 207, 224, 2481, 1884, 1545, 1290, 1867, 2422, 1802, 2261, 1793, 611, 527, 1250, 1401, 1056, 2410, 2017, 472, 944, 141, 1666, 2264, 1095, 2256, 1039, 80, 1459, 11, 1879, 2256, 831, 1653, 1011, 2248, 1758, 228, 2411, 2435, 812, 939, 2304, 557, 1134, 344, 234, 1092, 972, 1549, 1478, 1159, 2264, 643, 94, 171, 1287, 145, 2410, 789, 2139, 2190, 1711, 807, 1349, 2473,

2473, 801, 563, 1984, 797, 1239, 1989, 1137, 114, 538, 675, 788, 2223, 1715, 457, 400, 1272, 1041, 1713, 1487, 1968, 419, 760, 2204, 948, 482, 92, 2057, 369, 1390, 1574, 687, 2214, 2401, 497, 1361, 1799, 2262, 1069, 1165, 515, 72, 2396, 1793, 313, 1550, 2204, 1831, 1352, 1144, 390, 1703, 1061, 1166, 1747, 930, 1869, 518, 1377, 225, 517, 2481, 432, 50, 1837, 1662, 2314, 1878, 675, 1333, 715, 1450, 1813, 1713, 60, 1838, 2001, 751, 1537, 522, 1854, 866, 2361, 1000, 2410, 196, 125, 467, 87, 1348, 1449, 759, 514, 83, 1725, 2155, 839, 1061, 1634, 1211, 1855, 976, 2294, 1936, 175, 2468, 1941, 82, 1747, 1214, 2075, 1034, 790, 1531, 65, 2188, 1625, 752, 1215, 978, 872, 1345, 1141, 1736, 1696, 1943, 738, 43, 680, 2488, 300, 350, 851, 535, 1095, 2034, 405, 910, 2218, 801, 1318, 2026, 1537, 1227, 1330, 260, 1134, 2370, 1531, 758, 1325, 1432, 578, 1480, 351, 234, 274, 810, 1478, 434, 1582, 153, 521, 1883, 512, 1169, 1286, 1442, 1953, 1452, 661, 818, 1191, 80, 1074, 923, 2216, 1291, 1967, 500, 1914, 2325, 2083, 1673, 1539, 499, 1682, 2108, 2451, 1085, 308, 770, 1108, 2459, 2037, 257, 503, 2496, 1029, 739, 2168, 805, 215, 1922, 1880, 539, 1599, 2419, 12, 1733, 1281, 669, 1477, 933, 1461, 1707, 1098, 2098, 1798, 568, 1300, 1772, 1955, 303, 453, 1959, 2242, 2225, 793, 1055, 1895, 682, 2062, 359, 2177, 1190, 1156, 1018, 276, 2268, 1823, 416, 1422, 2052, 1223, 1579, 1082, 982, 804, 445, 195, 1554, 1963, 725, 1080, 2380, 307, 779, 1068, 1943, 1475, 461, 921, 1722, 31, 405, 2023, 150, 464, 1902, 2427, 1180, 822, 1649, 2486, 946, 395, 2292, 2066, 1150, 1907, 756, 1074, 2, 2159, 1073, 1383, 2215, 2271, 290, 1785, 1343, 162, 1812, 101, 1658, 1285, 2107, 443, 1108, 2342, 1754, 331, 2283, 1190, 45, 2031, 2267, 824, 152, 2380, 1591, 2406, 15, 2009, 2485, 1445, 165, 1497, 359, 2380, 1466, 1020, 1581, 211, 554, 1858, 1193, 2314, 479, 1225, 1848, 2168, 1783, 15, 749, 2382, 1114, 1045, 858, 2005, 1528, 772, 1620, 1962, 1675, 1445, 647, 993, 1164, 1619, 2238, 1542, 2448, 88, 847, 1045, 2292, 1976, 1079, 1473, 2213, 588, 1296, 1798, 319, 1873, 2366, 2301, 949, 1114, 1907, 1514, 460, 779, 1038, 309, 1386, 1307, 912, 756, 1651, 475, 586, 196, 2413, 683, 406, 1416, 2109, 52, 553, 2157, 1066, 241, 1892, 499, 1753, 377, 2232, 1348, 560, 1773, 714, 570, 737, 1484, 1639, 1762, 602, 1390, 577, 2037, 1326, 2426, 1993, 45, 2070, 1696, 340, 1135, 47, 612, 1290, 2332, 1194, 260, 581, 119, 150, 1042, 817, 509, 666, 2198, 1152, 1854, 2084, 2006, 405, 1582, 1591, 2133, 1835, 520, 1410, 1905, 119, 1955, 595, 2417, 2070, 1112, 1473, 1399, 1690, 392, 1907, 859, 2173, 874, 1367, 795, 1418, 2224, 1588, 2355, 274, 887, 434, 479, 1228, 2155, 618, 1531, 1746, 1660, 243, 1187, 329, 1831, 342, 774, 2320, 2032, 2460, 1812, 386, 722, 1415, 12, 1365, 2075, 1441, 1521, 1436, 1854, 1360, 2398, 266, 2009, 137, 482, 1007, 629, 261, 3, 1569, 1769, 1984, 33, 857, 1327, 1601, 2088, 740, 1075, 702, 2098, 1420, 499, 983, 2311, 1189, 1944, 2026, 222, 1780, 2272, 1980, 1421, 1342, 327, 1579, 1240, 1886, 31, 949, 1444, 2062, 2279, 1006, 1458, 650, 1068, 1810, 2175, 2174, 1253, 1887, 1960, 869, 1577, 1349, 560, 431, 39, 601, 2075, 415, 1880, 1854, 364, 981, 173, 1427, 82, 108, 800, 140, 2431, 802, 1395, 784, 2180, 313, 285, 642, 1456, 1431, 2437, 616, 228, 163, 2464, 1512, 555, 1715, 1656, 1438, 315, 407, 1368, 994, 794, 1353, 860, 387, 526, 1815, 1214, 885, 709, 2090, 482, 38, 49, 844, 2081, 2070, 1671, 1153, 1840, 2500, 605, 707, 522, 189, 160, 1676, 1495, 1162, 82, 2343, 1980, 2254, 977, 2434, 983, 1949, 1391, 1885, 1755, 1782, 2146, 1172, 1874, 1446, 1245, 2162, 1252, 2094, 781, 1315, 2115, 914, 927, 1279, 936, 896, 142, 1795, 868, 337, 1226, 357, 1834, 1858, 884, 1388, 1724, 1455, 2258, 167, 1330, 1424, 1292, 77, 2197, 1402, 2161, 1609, 1879, 549, 993, 727, 209, 361, 902, 896, 1715, 2063, 1680, 2332, 1768, 1816, 1454, 282, 347, 1577, 1971, 2142, 399, 902, 1681, 230, 363, 1049, 626, 1407, 2024, 1296, 1529, 1122, 1864, 1484, 340, 408, 2056, 174, 2291, 1822, 932, 1300, 230, 472, 1384, 1869, 161, 1603, 2307, 1849, 1342, 276, 1330, 2303, 272, 948, 1502, 1617, 2468, 667, 1993, 2123, 1337, 1280, 1932, 2044, 1801, 640, 1541, 1183, 1280, 1736, 1059, 1703, 879, 1121, 1405, 1386, 1707, 6, 1678, 1981, 2052, 1483, 453, 1485, 151, 1910, 1322, 1573, 2469, 793,

1569, 439, 663, 1052, 2260, 1377, 517, 1404, 1637, 343, 2439, 1933, 862, 2472, 1453, 1930, 1793, 278, 884, 251, 2048, 2431, 1321, 948, 80, 2118, 1484, 831, 961, 235, 2147, 459, 972, 2366, 234, 1043, 45, 929, 13, 2373, 1965]

Input2 (average)= [2048, 223, 1251, 626, 1687, 547, 586, 1592, 344, 730, 2049, 1579, 746, 2124, 1730, 1651, 1670, 104, 881, 663, 2069, 787, 1339, 1326, 971, 837, 1145, 1796, 2173, 1521, 1293, 1010, 1884, 2054, 469, 1081, 529, 25, 490, 2311, 1131, 94, 2279, 944, 1476, 679, 2345, 2077, 1112, 1088, 1508, 624, 2146, 2046, 537, 809, 1011, 1309, 1891, 760, 1439, 515, 1295, 192, 222, 1710, 1695, 1390, 1943, 213, 2034, 1722, 485, 2203, 80, 2144, 1521, 2461, 445, 374, 1658, 1119, 481, 1639, 2450, 1488, 171, 1056, 370, 1100, 441, 1685, 26, 609, 1068, 925, 61, 660, 276, 2478, 1013, 306, 1995, 1976, 606, 1868, 1379, 1864, 1948, 1763, 177, 783, 83, 1997, 1338, 265, 2485, 2132, 2394, 2071, 910, 883, 1916, 112, 1400, 2457, 168, 768, 2215, 1465, 565, 327, 776, 1661, 320, 1506, 2245, 1114, 788, 1974, 11, 2298, 597, 1972, 2030, 2231, 1182, 1160, 801, 201, 2494, 2072, 704, 1534, 1180, 1409, 1494, 544, 352, 1723, 2290, 204, 1331, 834, 910, 1681, 608, 756, 1360, 2122, 1197, 2019, 2170, 627, 2313, 1922, 1349, 2136, 605, 592, 1195, 1771, 2447, 245, 1324, 1299, 958, 2075, 1732, 1342, 471, 1672, 2130, 354, 1134, 414, 1499, 1602, 2074, 63, 2136, 986, 2404, 1964, 1960, 1907, 391, 1752, 2035, 2065, 128, 1523, 1667, 399, 1012, 1620, 1202, 2074, 1355, 1782, 1622, 989, 2009, 752, 2482, 2158, 2156, 738, 2042, 875, 904, 2242, 369, 1062, 1495, 1194, 1284, 1898, 1113, 841, 611, 2307, 1654, 210, 391, 2309, 2151, 2005, 64, 634, 2063, 840, 223, 1987, 2291, 1235, 2264, 513, 1116, 567, 2035, 2120, 1479, 820, 563, 2433, 1900, 590, 1585, 1769, 2258, 2325, 68, 128, 545, 1672, 1838, 873, 1132, 1909, 1039, 485, 1844, 2342, 2131, 1532, 2393, 1996, 2275, 1800, 810, 2329, 2064, 502, 624, 480, 1716, 943, 413, 982, 2140, 336, 1067, 1761, 1812, 95, 151, 1781, 159, 792, 262, 1858, 596, 1384, 2184, 139, 2244, 971, 1954, 852, 2132, 2134, 1339, 177, 198, 1423, 849, 1046, 1554, 1945, 2335, 2488, 280, 909, 746, 2251, 1430, 231, 1083, 674, 1952, 868, 1242, 2455, 1024, 75, 1473, 930, 345, 497, 959, 1336, 2132, 1423, 1795, 2119, 937, 1245, 1377, 1453, 2165, 1281, 1714, 1418, 2407, 1169, 2065, 2221, 1816, 1343, 342, 1779, 642, 847, 1810, 1729, 787, 355, 2117, 179, 2103, 338, 120, 1062, 1114, 1396, 391, 209, 1239, 2398, 185, 1676, 1802, 298, 2055, 220, 572, 784, 2333, 1602, 633, 308, 1649, 899, 481, 1540, 686, 1753, 53, 1473, 551, 789, 1971, 472, 1522, 1416, 1318, 1290, 1532, 572, 1355, 1580, 519, 762, 1788, 1068, 2091, 2150, 489, 1561, 1473, 2275, 2296, 859, 522, 1826, 1598, 1412, 1357, 1458, 742, 1998, 2074, 2499, 1925, 671, 906, 246, 77, 116, 1858, 1512, 914, 2304, 466, 1273, 1356, 325, 961, 754, 603, 169, 2459, 2290, 2437, 1018, 1681, 2197, 2361, 2233, 472, 903, 434, 2309, 969, 1267, 1292, 2094, 876, 470, 1954, 1925, 647, 623, 244, 1078, 2020, 1827, 514, 1515, 2315, 1243, 1085, 2273, 1469, 2419, 2233, 9, 370, 1720, 2353, 2168, 264, 865, 1533, 1772, 809, 1983, 385, 700, 410, 47, 1186, 1465, 2418, 2131, 1745, 89, 113, 2137, 1775, 1008, 394, 846, 568, 2101, 246, 648, 2396, 292, 631, 2072, 1058, 23, 1573, 2268, 2392, 1571, 1208, 2499, 1340, 281, 776, 1402, 1515, 583, 1884, 2248, 2137, 1248, 523, 1690, 627, 1879, 1664, 1827, 112, 1375, 1576, 1565, 2400, 473, 206, 910, 843, 2049, 1784, 2470, 51, 2111, 779, 966, 792, 2212, 1061, 693, 406, 1245, 1655, 859, 973, 1226, 984, 1147, 1620, 1580, 2426, 242, 2036, 2498, 2358, 864, 593, 485, 1768, 2030, 721, 1170, 158, 1629, 1252, 708, 1639, 1368, 1535, 1910, 1255, 2232, 198, 1933, 147, 1647, 1484, 606, 2089, 472, 1463, 943, 2402, 1326, 2351, 845, 1805, 1788, 1764, 1941, 1932, 937, 1905, 169, 269, 2017, 60, 820, 1019, 228, 1081, 1484, 2310, 271, 1199, 2449, 462, 761, 905, 90, 1261, 1622, 610, 1528, 2246, 1781, 2036, 1040, 551, 1908, 1430, 890, 1683, 969, 317, 1692, 302, 2158, 793, 138, 900, 1032, 132, 2040, 798, 2491, 601, 1833, 2456, 1192, 2409, 2207, 2298, 1089, 1348, 820, 454, 1546, 618, 2356, 2350, 1493, 432, 1128, 1115, 292, 1829, 502, 909, 2311, 756, 522, 329, 1084, 41, 2181, 1245, 1976, 983, 2335, 2480, 862, 1114, 2454,

1776, 2401, 1212, 1347, 2113, 220, 922, 1146, 467, 1901, 697, 2427, 234, 1945, 916, 2020, 2340, 1369, 1437, 2099, 2216, 776, 880, 369, 1109, 593, 1212, 439, 2055, 847, 1546, 177, 1626, 780, 732, 248, 1906, 1252, 2358, 913, 1233, 1155, 370, 138, 1157, 443, 890, 546, 1732, 460, 1001, 2267, 1149, 980, 1026, 1692, 1744, 2201, 2476, 2262, 253, 2473, 1029, 1352, 1842, 9, 287, 456, 99, 345, 418, 1062, 1293, 367, 2006, 1344, 2410, 174, 209, 1747, 1411, 415, 984, 2460, 1517, 191, 1219, 1544, 2293, 1138, 698, 531, 1250, 357, 565, 2277, 546, 2369, 634, 1356, 1690, 2343, 2347, 1002, 293, 1650, 1300, 1287, 988, 952, 1950, 848, 294, 988, 1065, 593, 2321, 1600, 663, 1251, 1013, 1721, 1238, 1474, 1038, 671, 1910, 98, 768, 1586, 1321, 1087, 2240, 970, 107, 2073, 2500, 188, 2375, 1766, 1934, 698, 1765, 2013, 230, 1236, 488, 26, 161, 632, 1333, 1082, 960, 1262, 363, 2215, 2450, 538, 1729, 2387, 1445, 2075, 194, 2249, 1570, 1778, 710, 1986, 888, 2034, 1094, 1460, 3, 1357, 2152, 473, 749, 957, 2229, 497, 539, 156, 204, 1030, 290, 300, 2235, 931, 1592, 263, 424, 2356, 821, 2253, 2460, 2248, 68, 244, 1043, 704, 2138, 1866, 1885, 131, 1902, 1945, 2223, 2028, 2120, 1983, 62, 1369, 1549, 396, 949, 2475, 2124, 397, 1670, 888, 1109, 1294, 1719, 568, 692, 779, 88, 1736, 473, 1902, 2475, 1675, 914, 757, 2184, 447, 2349, 210, 2263, 667, 1758, 659, 389, 122, 1322, 1830, 606, 1810, 1679, 1615, 336, 652, 990, 1996, 703, 979, 479, 562, 743, 2125, 424, 1215, 369, 922, 1808, 220, 1755, 1451, 282, 2426, 804, 1491, 2066, 2318, 2264, 850, 1562, 1015, 1274, 210, 1265, 1696, 1367, 44, 1933, 1210, 1262, 1893, 2379, 1603, 836, 801, 33, 2427, 1832, 596, 1317, 2317, 1029, 1584, 1697, 1778, 719, 851, 331, 1483, 591, 2078, 752, 369, 1506, 1983, 1300, 2279, 921, 2220, 2231, 309, 526, 2047, 819, 1131, 1127, 732, 1843, 1655, 1203, 2381, 1695, 872, 409, 910, 1984, 2069, 342, 1029, 1673, 684, 145, 602, 389, 2151, 2322, 1487, 1160, 130, 1931, 967, 1761, 1962, 383, 456, 1554, 2482, 1464, 1953, 1329, 319, 250, 230, 1786, 998, 1891, 937, 848, 627, 885, 1516, 2049, 2249, 1781, 1820, 2246, 2474, 508, 1578, 278, 1577, 1765, 2051, 2282, 1694, 31, 1112, 609, 1951, 110, 744, 122, 1866, 1579, 79, 2462, 546, 1989, 1796, 1517, 612, 366, 837, 808, 1595, 611, 1188, 590, 1289, 1014, 57, 1768, 835, 395, 1653, 1238, 1623, 2471, 1916, 1198, 369, 2091, 2220, 415, 883, 2379, 623, 1814, 199, 958, 1017, 2227, 6, 1955, 882, 540, 481, 1828, 845, 70, 291, 2373, 168, 2418, 462, 960, 318, 1430, 2100, 2388, 1850, 548, 2081, 1509, 2257, 78, 1985, 2376, 1568, 8, 1655, 1462, 2167, 1136, 1978, 2470, 1059, 1830, 1717, 2247, 2140, 1308, 227, 1376, 2104, 1507, 2212, 1180, 2357, 47, 2116, 2031, 657, 589, 223, 2070, 2177, 1781, 2221, 852, 1397, 554, 2255, 2292, 895, 1627, 389, 208, 1363, 813, 1422, 1943, 116, 2195, 2319, 2390, 1519, 2096, 2170, 648, 113, 2150, 1218, 1240, 399, 547, 531, 503, 1387, 1308, 2161, 418, 132, 112, 1121, 643, 464, 1490, 820, 149, 923, 66, 2339, 77, 2242, 2297, 155, 1733, 381, 914, 796, 806, 1588, 1862, 2362, 296, 748, 2298, 850, 1302, 90, 974, 1255, 1414, 1332, 2213, 1869, 766, 1710, 900, 1226, 336, 2379, 1312, 1092, 1255, 1047, 2162, 777, 1145, 1884, 2149, 2490, 2405, 192, 2198, 791, 759, 11, 1760, 683, 2457, 2003, 128, 1075, 551, 2261, 675, 372, 2184, 1218, 2352, 1541, 1119, 1463, 877, 1719, 1122, 1535, 2295, 1470, 2412, 1212, 977, 1381, 118, 2141, 1923, 1387, 1604, 1308, 59, 2257, 1804, 2488, 1122, 1471, 2418, 344, 455, 1289, 156, 2251, 1734, 1095, 753, 2036, 1780, 139, 2217, 431, 2242, 318, 1001, 650, 2479, 826, 1783, 1507, 1456, 1299, 1806, 203, 1050, 891, 1563, 327, 2436, 1970, 377, 1110, 1369, 107, 2380, 1194, 2009, 231, 1609, 1579, 81, 750, 1628, 1903, 576, 545, 1127, 1107, 2010, 1145, 86, 1586, 1628, 2352, 1784, 1071, 1314, 1599, 851, 714, 696, 1150, 715, 331, 655, 1596, 1938, 1976, 1263, 2186, 1799, 1709, 688, 2034, 2255, 1369, 2487, 954, 491, 2359, 1221, 1807, 1378, 2078, 1605, 2064, 791, 2116, 2048, 1728, 2495, 82, 281, 792, 1417, 1250, 539, 699, 1256, 245, 377, 1974, 1329, 2241, 907, 355, 267, 426, 342, 1344, 223, 58, 419, 2020, 869, 1629, 940, 2362, 1684, 1836, 23, 70, 1017, 371, 1757, 2033, 222, 463, 35, 208, 1458, 1281, 1574, 628, 102, 689, 1499, 1283, 2319, 1761, 340, 1461, 154, 1490, 1276, 1544, 334, 1969, 377, 1763, 565, 638, 1751, 451,

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2444, 1052, 1375, 465, 1998, 1273, 2398, 1771, 1959, 1824, 1573, 2008, 1057, 445, 576, 1292, 52, 2091, 1385, 1321, 1490, 1669, 1453, 557, 1309, 450, 1980, 258, 1308, 1795, 2213, 409, 2290, 719, 1560, 557, 2020, 367, 1505, 887, 561, 1467, 858, 1048, 568, 918, 684, 1756, 1701, 2487, 1504, 1935, 2179, 1158, 138, 51, 759, 2027, 1836, 2361, 2486]
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186, 1081, 1131, 1626, 906, 876, 2489, 1122, 2132, 494, 1460, 1051, 481, 1595, 1255, 813, 2357, 681, 1420, 1166, 761, 1772, 1768, 490, 1314, 1945, 475, 759, 1244, 1150, 2362, 935, 1401, 1812, 1916, 2449, 1586, 1844, 1114, 96, 1302, 212, 133, 1348, 1979, 2140, 2432, 896, 1437, 1312, 1093, 1106, 577, 1589, 2258, 1678, 1830, 409, 1151, 1815, 286, 525, 253, 918, 2016, 1528, 2077, 1327, 1193, 2327, 754, 377, 279, 867, 838, 612, 1684, 2428, 2332, 163, 324, 947, 337, 1980, 1740, 2125, 665, 1729, 826, 481, 385, 2131, 2231, 589, 854, 1749, 1204, 306, 1558, 694, 1281, 1141, 1733, 13, 446, 2099, 2095, 1228, 2335, 246, 1053, 1700, 237, 985, 1087, 263, 568, 1834, 1921, 157, 1207, 2451, 763, 64, 825, 1738, 252, 666, 2416, 40, 1509, 1838, 44, 2083, 394, 1217, 2445, 726, 1090, 1554, 1538, 2415, 795, 486, 517, 1567, 688, 1562, 1096, 995, 1204, 973, 2473, 1592, 1421, 1811, 2213, 1110, 1305, 803, 107, 940, 1674, 417, 648, 1360, 369, 120, 919, 279, 384, 1145, 1711, 150, 242, 1846, 801, 2062, 684, 736, 1335, 991, 1718, 1823, 2468, 1397, 2448, 586, 907, 617, 858, 2242, 1390, 1045, 2199, 910, 141, 1642, 1317, 2080, 407, 1148, 1739, 1923, 379, 1089, 349, 1861, 1587, 2110, 2019, 1067, 2024, 447, 597, 2407, 2361, 649, 952, 45, 161, 828, 466, 1319, 143, 887, 1101, 1770, 1878, 792, 2224, 2053, 617, 1993, 2333, 716, 2339, 662, 1267, 779, 1587, 1106, 1768, 1834, 381, 151, 2267, 2353, 1568, 650, 2380, 582, 1496, 2096, 1106, 722, 2471, 791, 320, 566, 1402, 1001, 2489, 2001, 2309, 499, 836, 1496, 1841, 1144, 521, 1050, 2124, 736, 1766, 898, 2320, 2111, 2095, 399, 721, 1923, 593, 1696, 211, 609, 173, 1353, 1469, 2290, 2050, 646, 1680, 190, 1040, 1691, 172, 934, 571, 386, 1313, 1181, 1012, 183, 12, 1456, 2443, 15, 2223, 786, 1577, 1398, 1007, 322, 2412, 686, 2124, 936, 8, 891, 1595, 1562, 1364, 1126, 89, 1753, 2404, 2002, 1805, 802, 1822, 576, 2161, 1576, 1671, 444, 1394, 1152, 1276, 2302, 2331, 629, 2119, 1629, 345, 1459, 1824, 696, 440, 655, 1733, 604, 553, 2264, 2229, 1231, 320, 1090, 1513, 1188, 1453, 2258, 1316, 295, 2119, 2016, 458, 1291, 1436, 1516, 1346, 219, 504, 371, 2199, 6, 979, 2313, 625, 1953, 1330, 525, 1998, 1161, 436, 2090, 2009, 626, 460, 956, 1017, 1061, 458, 2164, 863, 65, 74, 2262, 1144, 2425, 1338, 1393, 1773, 1224, 88, 1259, 248, 1846, 1785, 1303, 1915, 733, 361, 457, 426, 515, 1353, 1300, 466, 1023, 2398, 1487, 76, 2429, 1367, 2133, 232, 855, 171, 685, 1066, 1236, 362, 2008, 926, 2457, 1278, 2334, 177, 983, 2496, 1492, 999, 1047, 1330, 836, 1550, 671, 2326, 1921, 1089, 849, 1944, 2347, 1847, 82, 122, 2327, 2063, 2360, 1772, 135, 496, 1831, 896, 1377, 1351, 2274, 1241, 624, 2243, 1023, 1337, 493, 441, 1642, 1847, 2173, 1178, 990, 689, 2147, 769, 1841, 1698, 469, 1108, 868, 1902, 1300, 647, 1144, 94, 2038, 1181, 1080, 1627, 833, 57, 458, 888, 2444, 2376, 2443, 140, 511, 2374, 2490, 644, 1599, 2270, 2457, 1779, 1883, 559, 1670, 1241, 475, 389, 797, 2, 1673, 479, 947, 752, 174, 750, 1238, 450, 462, 1408, 64, 1667, 1606, 2315, 1142, 823, 405, 840, 1101, 2071, 513, 571, 918, 1704, 1656, 2454, 1410, 1760, 1393, 600, 2128, 77, 1712, 203, 578, 2014, 636, 311, 1551, 2021, 2396, 1899, 1592, 1629, 1040, 2066, 586, 1672, 1455, 1694, 102, 443, 1841, 167, 344, 1289, 402, 1251, 1951, 610, 1315, 2011, 2120, 323, 1977, 1498, 1333, 1883, 2010, 2360, 581, 664, 2373, 941, 2439, 26, 2215, 2260, 665, 981, 1856, 2089, 1444, 613, 2124, 1153, 1812, 175, 2292, 1365, 981, 2403, 216, 466, 1483, 318, 932, 496, 2240, 2143, 1593, 1044, 925, 938, 18, 1364, 240, 1745, 107, 224, 2097, 2216, 5, 1404, 467, 1209, 2454, 2040, 838, 1601, 2345, 569, 351, 1813, 1939, 1980, 1885, 1375, 1839, 1785, 75, 845, 107, 1225, 47, 835, 2366, 2027, 336, 159, 138, 1028, 2499, 139, 2310, 595, 2381, 1767, 679, 1666, 1086, 780, 1178, 1011, 2362, 1634, 853, 1070, 2012, 1234, 1402, 1964, 59, 1094, 1901, 521, 641, 1202, 2253, 1134, 1909, 2127, 1754, 439, 371, 1887, 226, 1964, 475, 1886, 438, 1884, 1370, 2318, 848, 1856, 2339, 1390, 704, 308, 960, 912, 726, 1348, 1281, 1846, 953, 2259, 1461, 102, 1685, 444, 938, 2094, 80, 1353, 2161, 1678, 1019, 59, 459, 311, 557, 1362, 1416, 1919, 977, 331, 517, 2365, 368, 1408, 1563, 1042, 1174, 892, 1498, 1646, 1378, 2093, 1079, 1562, 2185, 1256, 897, 1325, 1533, 1903, 2438, 1771, 573, 832, 1127, 2254, 1421, 2308, 2323,

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2295, 2332, 1989, 2463, 2297, 1722, 1669, 2215, 260, 1861, 483, 1570, 1323, 820, 1103, 365, 1360, 2416, 132, 735, 2294, 1150, 1997, 671, 1667, 23, 612, 1958, 831, 899, 158, 2199, 106, 2035, 1527, 1186, 1813, 2098, 1218, 1780, 709, 355, 1257, 1559, 1913, 83, 1231, 1174, 2223, 329, 737, 120, 680, 171, 2129, 1906, 1414, 56, 1935, 2430, 378, 1982, 115, 1071, 1848, 1828, 19, 71, 1300, 563, 1618, 418, 2498, 361, 808, 1180, 1665, 1365, 860, 260, 1365, 1908, 125, 231, 1719, 1059, 920, 606, 2214, 833, 606, 1926, 1537, 1943, 803, 1993, 1964, 347, 1550, 700, 2019, 1662, 180, 1725, 874, 740, 1899, 2018, 2000, 1576, 1111, 304, 2185, 142, 1262, 993, 1004, 2006, 2023, 884, 523, 1840, 2074, 1230, 938, 1880, 1521, 1441, 1741, 1442, 1985, 806, 1519, 568, 1627, 468, 1991, 746, 174, 1036, 657, 392, 683, 2143, 1230, 1643, 723, 881, 1008, 697, 307, 2133, 1307, 1297, 883, 2166, 1741, 1429, 2471, 861, 2279, 1806, 338, 1160, 1731, 624, 100, 2097, 2333, 2500, 2062, 695, 1914, 1707, 2324, 1962, 1692, 1485, 2051, 1710, 2471, 1010, 643, 741, 2365, 2375, 1708, 2434, 836, 787, 390, 438, 64, 796, 2005, 974, 2340, 556, 1357, 2154, 2322, 1988, 2439, 969, 2405, 758, 931, 1638, 496, 2405, 1197, 1917, 216, 1067, 1574, 1875, 2124, 1854, 1367, 2253, 415, 1594, 1992, 307, 515, 1335, 1533, 929, 791, 1665, 248, 2384, 1644, 901, 1222, 2080, 1521, 1787, 2163, 1224, 2130, 1623, 156, 2, 261, 1776, 1806, 573, 1104, 2300, 1443, 642, 831, 1177, 376, 62, 180, 1989, 2500, 2494, 1674, 1957, 1501, 1982, 675, 1258, 1793, 1494, 2090, 862, 2145, 1657, 1467, 1685, 748, 686, 1408, 2100, 2491, 2207, 226, 1422, 791, 1568, 1214, 663, 682, 2271, 443, 1112, 1520, 1899, 818, 1535, 1053, 818, 207, 308, 1973, 1032, 1184, 2497, 850, 837, 343, 527, 1036, 2089, 923, 615, 1321, 1621, 1344, 756, 2029, 1296, 214, 2386, 2322, 2398, 1776, 1048, 2342, 611, 2042, 1134, 840, 1669, 107, 74, 1234, 318, 827, 2393, 252, 1641, 837, 2480, 634, 2376, 667, 2427, 2086, 2012, 2295, 1412, 247, 2227, 784, 734, 2388, 1636, 833, 1889, 1698, 492, 1452, 89, 466, 2149, 1933, 1755, 1702, 143, 2080, 1169, 497, 330, 1113, 2487, 1859, 65, 459, 1170, 1677, 415, 1560, 31, 692, 144, 639, 1808, 1204, 53, 150, 608, 428, 1051, 2041, 1496, 211, 2323, 1982, 172, 120, 673, 418, 2449, 727, 1645, 505, 1456, 911, 2200, 1102, 1947, 278, 1305, 461, 107, 705, 1736, 60, 571, 1289, 850, 47, 2284, 2346, 1794, 1156, 1403, 242, 1235, 701, 1398, 700, 1441, 355, 1985, 259, 1681, 233, 1753, 351, 1767, 1527, 2137, 1274, 2109, 751, 1054, 581, 2090, 1791, 1133, 2359, 1812, 1131, 1580, 974, 424, 1758, 1055, 1854, 833, 657, 1437, 342, 827, 905, 853, 1798, 1157, 2411, 397, 755, 1283, 1707, 1574, 625, 934, 1653, 1450, 1793, 1056, 519, 2485, 2128, 570, 136, 1628, 2297, 312, 2445, 882, 984, 2404, 1472, 464, 1065, 1935, 1103, 434, 2342, 584, 1284, 219, 136, 1095, 870, 1216, 606, 1673, 1050, 2047, 341, 821, 939, 271, 60, 1656, 1128, 1254, 1535, 1878, 1290, 2339, 459, 2259, 1261, 170, 646, 1883, 953, 1370, 573, 1830, 1870, 827, 1554, 839, 578, 1014, 1206, 2067, 2406, 2127, 1184, 849, 130, 740, 1260, 1258, 1597, 873, 363, 1269, 840, 216, 1605, 2104, 1658, 321, 2182, 2392, 266, 2199, 901, 2376, 1592, 446, 1225, 1145, 71, 1410, 1972, 1787, 1645, 2145, 128, 143, 445, 311, 1198, 1486, 1512, 1436, 2140, 1225, 600, 943, 1762, 191, 1663, 1227, 414, 1544, 1227, 316, 1675, 2109, 1624, 524, 1988, 1957, 1311, 173, 2367, 1769, 1984, 750, 322, 2075, 1912, 2078, 1058, 475, 2232, 863, 662, 699, 920, 1828, 61, 2065, 2494, 1709, 811, 2184, 580, 1876, 169, 1550, 701, 1645, 114, 1294, 1138, 845, 1441, 2169, 10, 1272, 122, 1363, 444, 1559, 1028, 1550, 1128, 1924, 650, 2086, 1829, 1836, 1491, 1012, 2234, 1016, 906, 1020, 527, 1595, 2358, 1597, 123, 1410, 2236, 846, 2298, 1515, 1724, 517, 2464, 85, 867, 332, 451, 1582, 182, 1821, 708, 581, 1961, 1618, 1519, 362, 2392, 1156, 2373, 814, 2473, 1543, 52, 1146, 1443, 1995, 2243, 2225, 2461, 1413, 47, 1399, 2133, 1703, 446, 2105, 89, 1695, 2342, 7, 1855, 517, 655, 1959, 541, 524, 1494, 1896, 668, 304, 1806, 781, 906, 340, 845, 15, 415, 1940, 1460, 2421, 2272, 382, 2307, 2482, 2068, 2032, 1856, 1887, 969, 1784, 1202, 232, 1170, 1014, 1174, 507, 1819, 1221, 273, 902, 793, 1216, 570, 1670, 809, 2421, 2282, 2357, 2480, 2455, 1669, 2226, 2084, 342, 1818, 179, 746, 2311, 732, 1838, 1390, 750, 939, 2248, 2136, 1982, 858,

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1915, 1540, 174, 773, 1170, 30, 2306, 1855, 1355, 2220, 2103, 405, 1111, 2409, 136, 312, 1778, 849, 1276, 1396, 477, 666, 1966, 869, 2225, 1423, 1504, 1869, 1879, 1826, 1009, 135, 169, 1265, 1677, 519, 2270, 382, 686, 1371, 1986, 1437, 2334, 2443, 2133, 1185, 2497, 2317, 369, 1733, 2412, 2021, 1673, 2479, 119, 796, 1132, 1463, 706, 1528, 1658, 1989, 2226, 841, 1476, 2438, 862, 1037, 110, 517, 1588, 1777, 1306, 476, 1978, 1337, 27, 1320, 972, 1036, 2479, 1340, 530, 2361, 1360, 2456, 539, 1283, 2437, 2192, 2277, 2241, 2062, 31, 1026, 1329, 2338, 503, 662, 186, 393, 708, 306, 1204, 2151, 1732, 1727, 187, 1989, 2499, 1438, 703, 1266, 1617, 70, 2084, 1592, 1691, 667, 447, 1103, 1722, 955, 1596, 2286, 619, 1967, 2305, 793, 828, 1261, 702, 971, 2018, 1293, 1606, 2260, 1887, 1778, 463, 2103, 76, 2492, 720, 201, 2342, 1033, 316, 73, 1886, 948, 561, 2204, 413, 2458, 1151, 520, 499, 850, 2233, 1944, 1418, 221, 552, 437, 1665, 2462, 110, 2365, 884, 1979, 1679, 1356, 2077, 1623, 987, 857, 1777, 1395, 258, 791, 1537, 1538, 2500, 2092, 1726, 911, 505, 2259, 1737, 2259, 2437, 1763, 1322, 2316, 1420, 2319, 707, 2050, 234, 1781, 598, 678, 840, 784, 2385, 1015, 608, 1105, 791, 307, 889, 1751, 298, 1375, 1984, 481, 222, 2468, 2367, 625, 2300, 338, 679, 1288, 334, 1110, 2324, 1313, 1222, 529, 440, 18, 882, 1091, 311, 2353, 2328, 1409, 648, 994, 1977, 1099, 1112, 1993, 1562, 249, 262, 1939, 957, 267, 770, 1088, 735, 1614, 863, 1673, 518, 2229, 2295, 959, 1014, 1176, 2099, 1102, 2269, 2194, 712, 1108, 1251, 485, 1348, 1839, 917, 770, 1585, 2339, 1744, 2351, 2089, 1721, 688, 798, 2342, 2477, 2490, 1813, 76, 1714, 888, 2001, 1102, 1640, 226, 820, 999, 1728, 1634, 889, 774, 2309, 1751, 2269, 723, 244, 1103, 2067, 1426, 1859, 830, 5, 352, 1913, 820, 932, 126, 2220, 1073, 1075, 855, 2472, 1679, 1156, 2186, 2005, 631, 1726, 2148, 1816, 425, 56, 2442, 662, 1245, 1141, 497, 781, 1856, 1051, 909, 2442, 593, 825, 338, 645, 2002, 358, 991, 1153, 291, 1062, 1743, 1114, 47, 2073, 1549, 1774, 2171, 960, 326, 1906, 1657, 1103, 2443, 1666, 350, 1436, 1659, 1503, 986, 657, 1567, 1270, 1778, 827, 1664, 1632, 2118, 2394, 1596, 295, 513, 1956, 1078, 2000, 1855, 1284, 1504, 1667, 182, 183, 2330, 1162, 2310, 695, 1897, 307, 2380, 2018, 1861, 1240, 2103, 1631, 1454, 631, 912, 1683, 1587, 1944, 1686, 1587, 2129, 1166, 1102, 1685, 902, 654, 984, 285, 1573, 1443, 61, 884, 832, 2457, 211, 502, 2489, 1148, 673, 2092, 790, 1816, 1306, 1443, 1990, 2071, 968, 420, 759, 992, 1876, 1577, 2294, 288, 216, 1316, 1154, 1504, 1030, 1163, 266, 244, 144, 519, 2241, 383, 2135, 2241, 258, 2407, 2457, 86, 982, 331, 1435, 1040, 575, 1311, 2045, 179, 1741, 2265, 1972, 2482, 744, 1630, 1711, 825, 141, 506, 43, 135, 2444, 904, 2161, 651, 1327, 2224, 537, 211, 379, 1392, 574, 4, 2282, 587, 993, 409, 1361, 879, 2195, 1884, 1338, 2040, 2478, 1036, 1116, 84, 2317, 320, 2394, 256, 415, 1959, 1139, 2288, 2051, 1392, 1327, 1015, 1703, 2033, 43, 2475, 1963, 1634, 1455, 11, 792, 2069, 324, 1777, 1337, 753, 2290, 567, 1513, 2423, 1017, 1975, 1082, 1325, 249, 356, 1177, 1993, 1033, 1154, 1338, 1453, 1865, 1778, 1476, 1629, 768, 1245, 1305, 285, 308, 1927, 1081, 2236, 552, 591, 2351, 1504, 194, 806, 1117, 1082, 800, 59, 1869, 1592, 1123, 1491, 439, 2047, 1527, 1839, 2358, 2402, 790, 1672, 2426, 716, 1220, 1786, 1279, 2220, 2008, 963, 1102, 1786, 105, 1087, 487, 1329, 622, 2017, 113, 1464, 1855, 718, 1922, 1148, 157, 2433, 61, 1899, 2403, 1032, 977, 475, 10, 767, 66, 1471, 2299, 1866, 1468, 842, 2023, 686, 902, 89, 2113, 793, 1452, 2150, 558, 16, 210, 786, 1297, 789, 286, 798, 912, 909, 258, 1578, 1353, 2178, 1184, 842, 2304, 162, 1966, 2418, 2268, 530, 187, 1116, 2231, 1685, 1225, 2039, 2454, 254, 1535, 610, 2032, 425, 2378, 749, 1087, 1532, 2338, 1892, 2484, 710, 513, 885, 2048, 235, 1487, 62, 1420, 1603, 1603, 1779, 230, 1521, 1937, 169, 238, 1717, 717, 124, 487, 1972, 1169, 217, 1676, 2334, 135, 1338, 313, 2379, 265, 1257, 389, 661, 2158, 1476, 842, 2009, 1465, 829, 646, 617, 1804, 1333, 1599, 1584, 375, 680, 164, 1009, 1442, 808, 1386, 2442, 1294, 847, 2123, 2046, 562, 2010, 1497, 694, 1461, 1952, 2283, 460, 1752, 1254, 679, 1511, 770, 705, 2038, 731, 1141, 2359, 161, 1276, 1159, 2425, 507, 969, 2390, 789, 1924, 433, 160, 88, 512, 976, 1590, 1174, 1680, 1058, 268,

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