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1 "C:\Users\Stefanos Demetriou\venv\Python37\Scripts\python.  
  exe" "C:/Users/Stefanos Demetriou/Documents/Year 2/  
  Software Methodologies/AI Search/Assignment/Simulated  
  Annealing/cityTours.py"  
2 The very best tour for 12 cities is 56  
3 1,6,4,9,7,2,3,5,8,11,10,12,  
4 This took 14.036320924758911 to run  
5 The very best tour for 17 cities is 1444  
6 5,11,3,9,2,10,17,14,6,16,7,4,15,13,12,1,8,  
7 This took 34.94029974937439 to run  
8 The very best tour for 21 cities is 2549  
9 19,21,13,11,16,12,20,18,17,1,7,14,4,5,9,6,8,10,15,3,2,  
10 This took 51.4605598449707 to run  
11 The very best tour for 26 cities is 1473  
12 2,5,24,3,4,15,19,9,6,14,12,22,8,26,25,16,23,7,21,11,1,18,  
  13,20,17,10,  
13 This took 70.15631008148193 to run  
14 The very best tour for 42 cities is 1059  
15 32,12,6,10,38,1,7,36,13,4,34,5,14,8,2,39,25,40,11,30,41,17  
  ,28,23,35,24,3,27,18,37,20,19,26,31,15,29,33,21,16,22,9,42  
  ,  
16 This took 145.71406960487366 to run  
17 The very best tour for 48 cities is 12330  
18 4,11,41,31,21,5,10,48,47,7,1,8,34,37,19,32,18,25,9,38,29,  
  46,28,30,39,17,44,13,27,14,43,22,20,16,26,45,3,24,23,6,15,  
  35,40,33,42,36,12,2,  
19 This took 183.53461050987244 to run  
20 The very best tour for 58 cities is 25395  
21 51,9,4,29,15,40,35,2,39,32,12,8,58,57,19,54,52,50,47,43,17  
  ,18,31,56,27,6,46,23,44,13,11,42,49,21,25,16,55,37,7,38,48  
  ,34,53,1,24,3,41,22,33,26,10,5,14,28,20,36,45,30,  
22 This took 248.35593676567078 to run  
23 The very best tour for 175 cities is 21566  
24 169,72,93,40,50,82,129,59,64,140,9,81,103,162,15,34,27,78,  
  139,117,45,35,170,39,6,120,155,87,62,149,113,28,95,133,26,  
  33,88,43,156,105,163,61,138,60,115,51,147,18,2,161,104,97,  
  47,73,89,31,12,96,160,112,63,29,49,126,164,108,116,20,71,  
  94,100,53,145,102,4,111,99,168,65,38,36,173,137,148,119,75  
  ,106,74,67,90,66,144,152,68,17,46,123,22,143,122,128,130,  
  109,159,166,3,171,16,57,44,14,5,76,10,91,30,79,70,132,172,  
  165,56,80,142,52,134,92,77,86,175,174,136,124,32,151,110,  
  146,83,150,101,158,154,13,21,107,55,19,141,48,135,25,167,  
  23,58,85,127,41,84,24,37,1,125,121,69,11,98,153,54,8,7,114  
  ,157,131,118,42,  
25 This took 1815.6424815654755 to run
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26 The very best tour for 180 cities is 1950
27 10,129,60,48,159,75,33,15,163,114,90,56,7,131,164,68,42,59
    ,54,49,95,130,154,77,11,12,116,63,140,73,125,102,32,72,35,
    167,13,98,127,169,142,29,117,120,105,149,124,173,9,128,81,
    91,23,165,55,69,135,84,70,162,4,8,21,122,71,180,3,26,79,
    153,44,94,20,45,143,58,166,62,86,158,74,145,150,92,2,141,
    61,178,76,99,151,100,38,113,96,133,1,47,18,65,119,134,88,
    148,17,83,146,97,6,22,176,101,43,52,80,155,67,111,170,157,
    14,53,174,137,51,106,144,30,82,115,160,172,5,103,147,93,19
    ,16,107,85,112,123,168,27,25,66,36,57,50,110,34,118,28,37,
    136,126,24,104,108,156,46,64,109,179,39,161,41,171,31,152,
    121,87,175,78,89,177,138,40,132,139,
28 This took 1929.7930507659912 to run
29 The very best tour for 535 cities is 49895
30 65,89,391,167,227,117,283,350,98,501,2,186,201,340,377,360
    ,187,90,358,200,109,174,292,78,386,30,75,459,242,14,34,453
    ,282,329,516,226,411,240,317,99,524,216,95,447,38,510,390,
    56,235,474,434,160,3,529,102,55,495,224,194,388,365,199,
    112,383,37,177,137,493,91,10,451,183,182,295,455,166,68,
    341,181,525,165,74,215,154,206,507,70,457,517,323,395,307,
    245,58,192,50,431,438,51,173,406,259,338,335,205,143,319,
    85,262,48,129,208,233,339,308,384,7,161,518,351,254,439,
    304,207,412,441,80,464,246,188,127,280,273,190,126,66,203,
    238,293,132,463,414,300,138,193,496,432,106,321,135,498,77
    ,422,27,12,265,491,222,236,4,488,468,394,17,461,237,153,
    452,511,291,83,361,234,530,497,289,134,204,202,462,151,521
    ,269,6,281,393,172,445,64,526,81,494,458,79,290,296,400,
    392,251,253,362,326,116,244,232,21,423,378,171,96,45,398,
    430,407,301,184,157,268,28,20,363,342,487,330,67,140,303,
    346,191,24,123,416,231,298,305,533,196,426,101,380,54,502,
    279,294,314,449,336,250,152,297,60,189,352,486,92,110,88,
    52,325,195,500,446,403,128,19,485,230,343,349,170,456,332,
    176,344,514,263,225,381,354,107,428,477,111,505,76,149,108
    ,44,409,467,286,482,387,213,375,162,141,33,535,42,62,258,
    270,133,379,316,331,8,425,310,1,71,252,442,353,311,499,397
    ,504,266,241,345,475,229,147,197,368,179,490,100,105,436,
    39,302,483,198,478,443,115,86,278,148,122,359,130,11,223,
    367,104,26,479,415,492,324,513,256,22,61,534,18,532,212,
    180,520,82,155,399,87,472,25,448,313,139,46,43,261,318,164
    ,218,473,402,374,433,150,408,435,444,40,277,327,113,209,
    260,159,47,239,424,72,376,264,503,276,63,460,366,32,5,249,
    404,29,450,73,69,36,31,465,508,429,175,413,364,527,275,373
    ,53,35,84,454,219,16,168,333,420,522,312,274,334,284,309,
    97,427,421,348,272,405,515,185,315,221,217,211,119,124,163
    ,120,471,287,59,419,285,178,372,370,267,93,396,369,306,519
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30 ,169,125,417,531,509,103,13,470,131,437,401,57,476,220,523
    ,248,528,41,484,15,382,337,94,257,136,466,322,320,121,356,
    243,145,371,228,210,385,357,114,156,512,440,480,142,146,
    247,355,506,489,288,118,23,328,158,418,49,255,347,481,214,
    144,389,271,9,299,410,469,
31 This took 16320.492926359177 to run
32
33 Process finished with exit code 0
34
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