```
 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 37.00363039970398 to run
 5 The very best tour for 17 cities is  1444
 6 12,13,15,4,7,16,6,14,17,10,2,9,3,11,5,8,1,
 7 This took 64.66905426979065 to run
 8 The very best tour for 21 cities is  2549
 9 4,5,9,6,8,10,15,3,2,19,21,13,11,16,12,20,18,17,1,7,14,
10 This took 92.24718737602234 to run
11 The very best tour for 26 cities is  1473
12 16,25,26,8,22,12,14,6,9,19,15,4,3,24,5,2,10,17,20,13,18,1,
   11,21,7,23,
13 This took 113.99730825424194 to run
14 The very best tour for 42 cities is  1058
15 26,31,15,23,35,24,32,12,6,10,38,1,7,36,29,33,21,13,30,41,
   17,28,4,34,5,14,8,2,39,42,9,22,16,11,40,25,3,27,18,37,20,
   19,
16 This took 241.7259304523468 to run
17 The very best tour for 48 cities is  12611
18 21,31,41,27,13,44,17,5,10,46,29,38,9,37,34,8,35,15,20,16,
   26,45,11,4,2,12,36,42,33,6,23,48,40,14,43,22,24,3,30,39,7,
   1,19,32,18,25,28,47,
19 This took 331.0332570075989 to run
20 The very best tour for 58 cities is  25395
21 34,53,1,24,3,41,22,33,26,10,5,14,28,20,36,45,30,51,9,4,29,
   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,
22 This took 464.18018913269043 to run
23 The very best tour for 175 cities is  21901
24 71,20,94,100,53,102,88,33,4,133,26,95,117,139,78,45,35,170
   ,39,6,120,155,5,14,76,10,91,30,79,70,132,28,113,149,62,87,
   81,103,162,15,34,27,43,156,116,108,126,49,164,29,63,112,
   160,96,12,31,89,73,47,97,104,161,2,18,147,51,60,115,138,61
   ,163,105,140,9,7,114,157,131,118,42,169,72,93,40,50,82,129
   ,59,64,8,54,153,98,1,37,24,127,41,84,48,135,25,167,23,58,
   85,11,69,121,125,13,21,107,55,19,141,154,158,101,150,83,
   146,110,151,32,124,136,174,175,86,77,92,134,52,142,80,56,
   165,172,3,166,159,109,130,128,122,143,22,123,46,171,16,57,
   44,68,152,144,66,90,67,74,106,75,119,148,137,173,36,38,65,
   168,99,111,17,145,
25 This took 3380.577481985092 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 3824.4975357055664 to run
29  The very best tour for 535 cities is   50084
30  371,228,156,114,357,385,210,489,506,355,247,146,142,480,
    440,512,145,243,356,121,320,322,466,136,257,94,337,382,15,
    484,41,528,248,523,220,476,57,401,437,131,470,13,103,509,
    531,417,125,169,519,306,369,396,93,267,370,372,178,285,419
    ,59,287,471,120,119,124,163,211,217,221,315,185,515,405,
    272,348,421,427,97,309,284,334,274,72,376,264,503,276,63,
    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,
    312,424,239,47,433,150,408,374,402,473,218,164,318,40,277,
    327,113,209,260,159,435,444,261,43,46,139,313,448,25,472,
    87,399,82,155,520,180,212,532,18,534,61,22,256,513,324,492
    ,415,479,26,104,367,223,11,130,359,122,148,278,86,115,443,
    478,198,483,302,39,436,105,100,490,179,368,197,147,229,475
    ,345,241,266,504,397,499,311,353,442,252,71,1,310,425,8,
    331,316,379,133,270,258,62,42,535,33,141,162,375,213,387,
    482,286,467,44,409,108,149,76,505,111,477,107,428,354,381,
    225,263,514,344,176,332,456,170,189,352,92,486,110,88,52,
    325,195,500,446,19,128,403,485,230,343,349,60,297,152,250,
    336,449,314,294,279,502,54,380,101,426,196,533,305,288,118
    ,23,328,158,418,49,255,347,481,214,271,9,299,410,469,144,
    389,65,89,298,231,416,123,24,191,346,303,140,67,330,487,
    342,363,20,28,268,157,184,301,407,430,398,45,96,171,378,
    423,21,232,244,116,326,362,253,251,392,400,296,290,79,458,
    494,81,526,64,445,172,393,281,6,269,521,151,83,361,234,530
    ,497,289,134,204,202,462,291,511,452,153,237,461,17,394,
    236,4,488,468,222,491,265,12,27,422,77,498,135,321,106,432
    ,496,193,138,300,414,463,132,293,238,203,66,126,190,273,
    280,127,188,246,464,80,441,412,207,304,439,254,351,518,161
    ,7,384,308,339,233,208,129,48,262,85,319,143,205,335,338,
    259,406,173,51,438,431,50,192,58,245,307,395,323,517,457,
    70,507,206,154,215,74,165,525,181,341,68,166,455,295,182,
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30  183,451,10,91,493,137,177,37,383,112,199,365,388,194,224,
    495,55,102,529,3,160,434,474,235,56,390,510,38,447,95,216,
    524,99,317,240,411,226,516,329,282,453,34,14,242,459,30,75
    ,386,78,292,174,109,200,358,90,187,340,201,186,2,98,501,
    117,283,350,360,377,227,167,391,
31  This took 27134.17354297638 to run
32
33  Process finished with exit code 0
34
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