



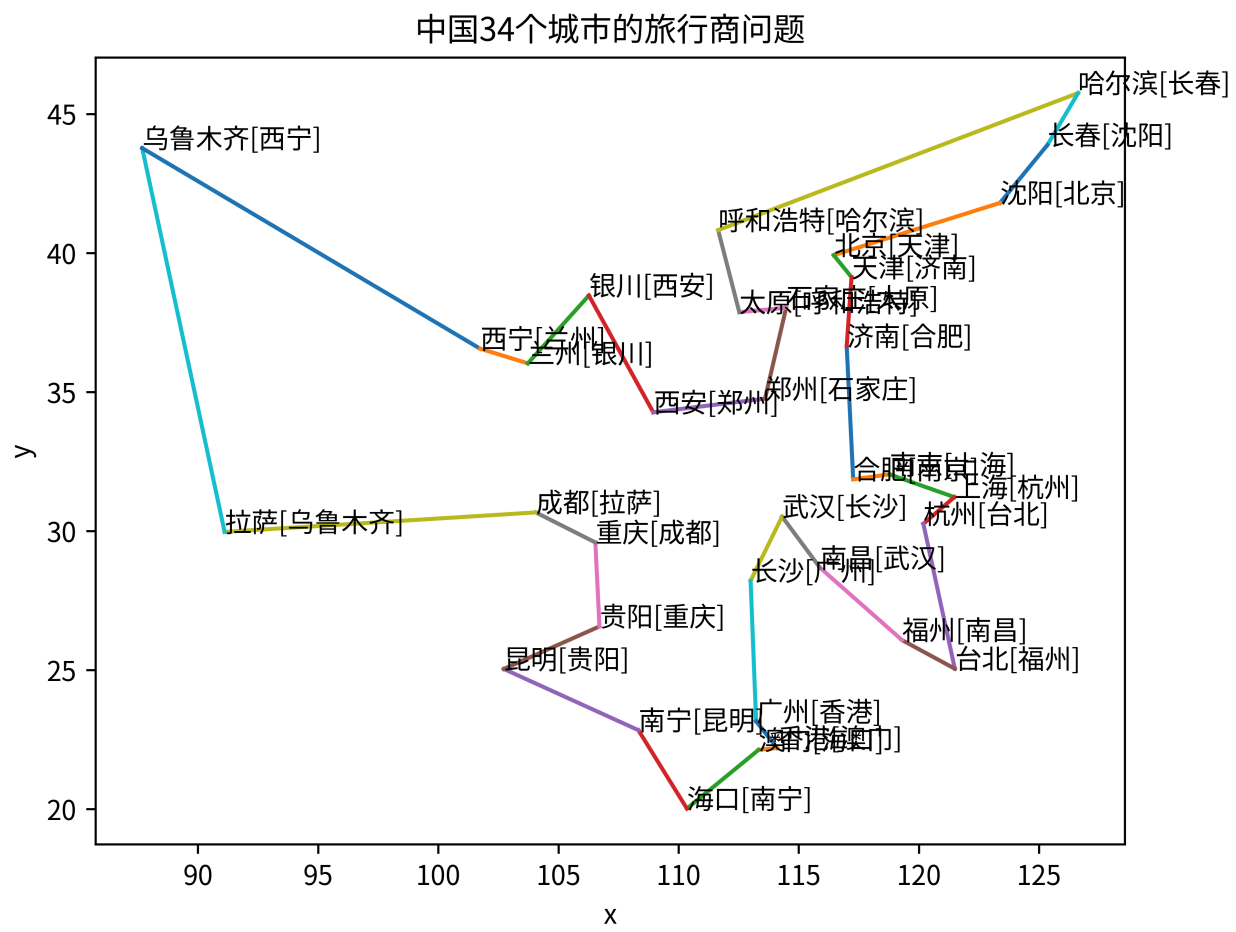
解TSP旅行商问题

给定中国34个城市的GEO坐标，如下：

["北京","天津","上海","重庆","拉萨","乌鲁木齐","银川","呼和浩特","南宁","哈尔滨","长春","沈阳","石家庄","太原","西宁","济南","郑州","南京","合肥","杭州","福州","南昌","长沙","武汉","广州","台北","海口","兰州","西安","成都","贵阳","昆明","香港","澳门"]

[[39.92,116.46],[39.13,117.2],[31.22,121.48],[29.59,106.54],[29.97,91.11],[43.77,87.68],[38.47,106.27],
[40.82,111.65],[22.84,108.33],[45.75,126.63],[43.88,125.35],[41.8,123.38],[38.03,114.48],[37.87,112.53],
[36.56,101.74],[36.65,117],[34.76,113.6],[32.04,118.78],[31.86,117.27],[30.26,120.19],[26.08,119.3],
[28.68,115.89],[28.21,113],[30.52,114.31],[23.16,113.23],[25.05,121.5],[20.02,110.35],[36.03,103.73],
[34.27,108.95],[30.67,104.06],[26.57,106.71],[25.04,102.73],[22.2,114.1],[22.13,113.33]]

其最优解是15704。



```
local print = require('package.print').print
local plt = require 'package.plot'
local mol = libminoptlab
```

```

local city = {{39.92, 116.46}, {39.13, 117.2}, {31.22, 121.48}, {29.59, 106.54}, {29.97, 91.11}, {43.77,
87.68},
               {38.47, 106.27}, {40.82, 111.65}, {22.84, 108.33}, {45.75, 126.63}, {43.88, 125.35}, {41.8,
123.38},
               {38.03, 114.48}, {37.87, 112.53}, {36.56, 101.74}, {36.65, 117}, {34.76, 113.6}, {32.04, 118.78},
               {31.86, 117.27}, {30.26, 120.19}, {26.08, 119.3}, {28.68, 115.89}, {28.21, 113}, {30.52, 114.31},
               {23.16, 113.23}, {25.05, 121.5}, {20.02, 110.35}, {36.03, 103.73}, {34.27, 108.95}, {30.67,
104.06},
               {26.57, 106.71}, {25.04, 102.73}, {22.2, 114.1}, {22.13, 113.33}}

local cityname = {
    "北京", "天津", "上海", "重庆", "拉萨", "乌鲁木齐", "银川", "呼和浩特", "南宁", "哈尔滨", "长春", "沈
阳", "石家庄", "太原", "西宁",
    "济南", "郑州", "南京", "合肥", "杭州", "福州", "南昌", "长沙", "武汉", "广州", "台北", "海口", "兰州", "西安", "成都", "贵
阳", "昆明", "香港", "澳门"
}

local best, fbest = mol.tspsolve(city, "GEO")

print({
    fbest = fbest,
    best = best
})

local img = {}
local len = #best

for i = 1, len - 1 do

```

```

    table.insert(img,
        plt.line({{city[best[i]][2], city[best[i + 1]][2]}, {city[best[i]][1], city[best[i + 1]][1]}}}, {nil},
        {}, {{
            text = {city[best[i]][2], city[best[i]][1], string.format('%s[%s]', cityname[best[i]],
cityname[best[i + 1]])}
        }}}))
end
table.insert(img,
    plt.line({{city[best[#best]][2], city[best[1]][2]}, {city[best[#best]][1], city[best[1]][1]}}}, {nil}, {},
    {{
        text = {city[best[len]][2], city[best[len]][1], string.format('%s[%s]', cityname[best[len]],
cityname[best[1]])}
    }}}))

local fw = plt.framework(111, '中国34个城市的旅行商问题', {'x', 'y'})
plt.show({fw, img})

```

所有权利归长沙市先验真理数据科技有限公司所有,侵权必究.