showPath

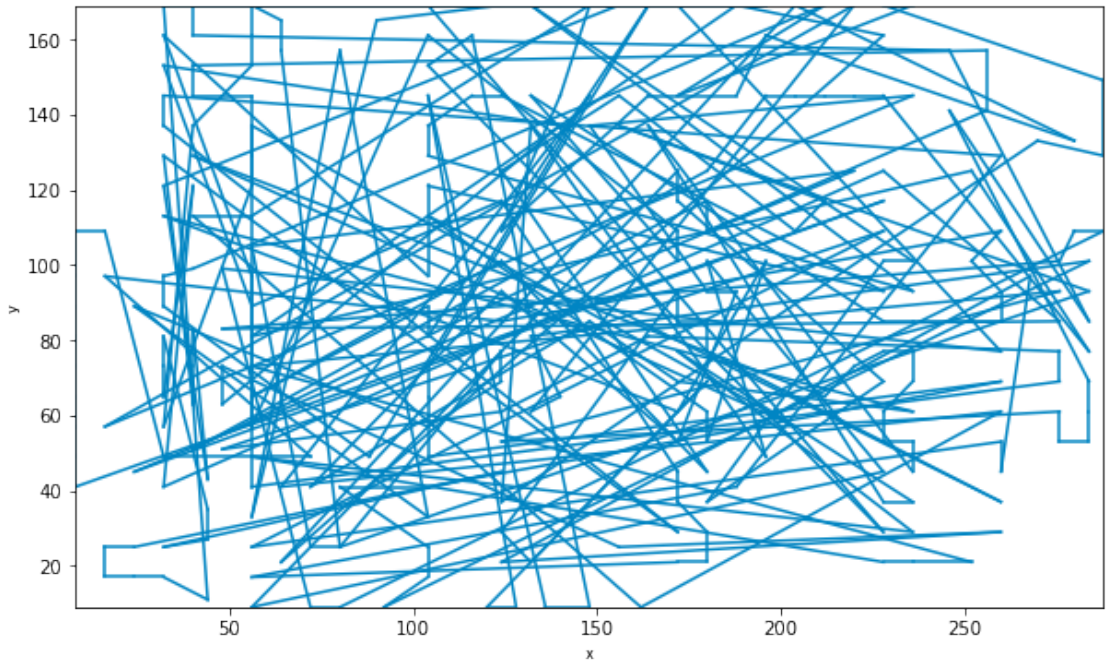
July 15, 2021

[1]:
```
import matplotlib.pyplot as plt
```

[12]:
```
def drawPic(filename):
    with open('../result/'+filename, 'r') as f:
        data = f.readlines()

    pos = [[int(j) for j in i.split()] for i in data]
    x = [i[0] for i in pos]
    y = [i[1] for i in pos]
    dots = pos
    plt.figure(figsize=(10,6))
    plt.xlim(min(x),max(x))      #x
    plt.ylim(min(y),max(y))        #y
    plt.xlabel('x',fontproperties="simhei")     #x
    plt.ylabel('y',fontproperties="simhei")     #y
    for i in range(len(dots)-1):
        start = (dots[i][0],dots[i+1][0])
        end = (dots[i][1],dots[i+1][1])
        plt.plot(start,end,color='#0085c3')
    start = (dots[-1][0],dots[0][0])
    end = (dots[-1][1],dots[0][1])
    plt.plot(start,end,color='#0085c3')
    plt.show()
```

[15]:
```
for i in range(10):
    drawPic('ls'+str(i)+'.txt')
```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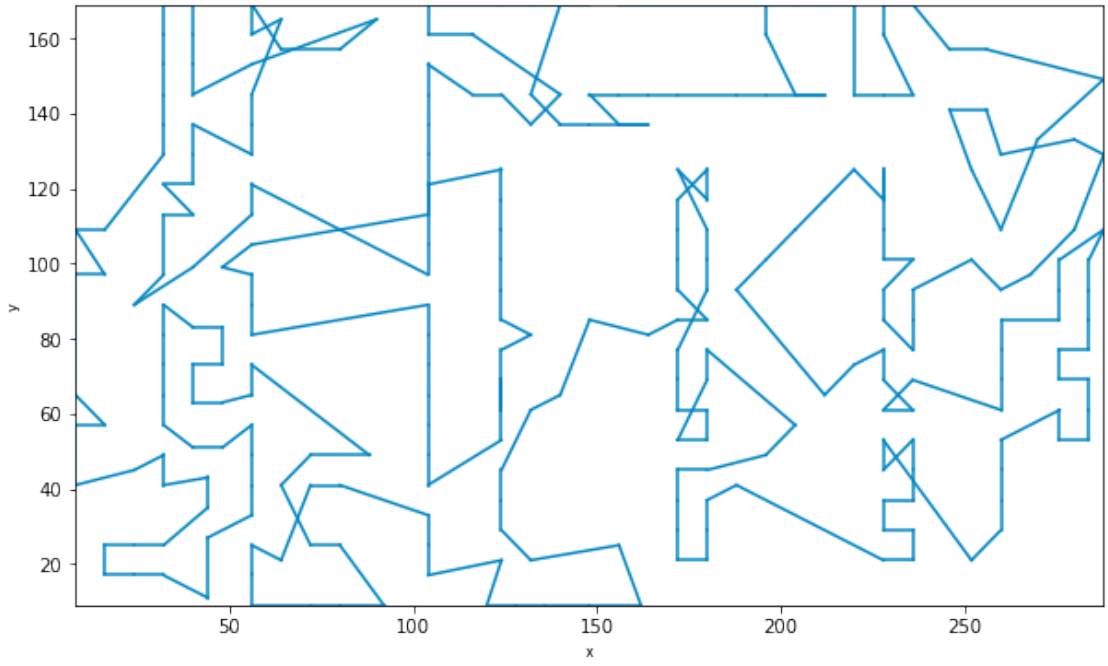
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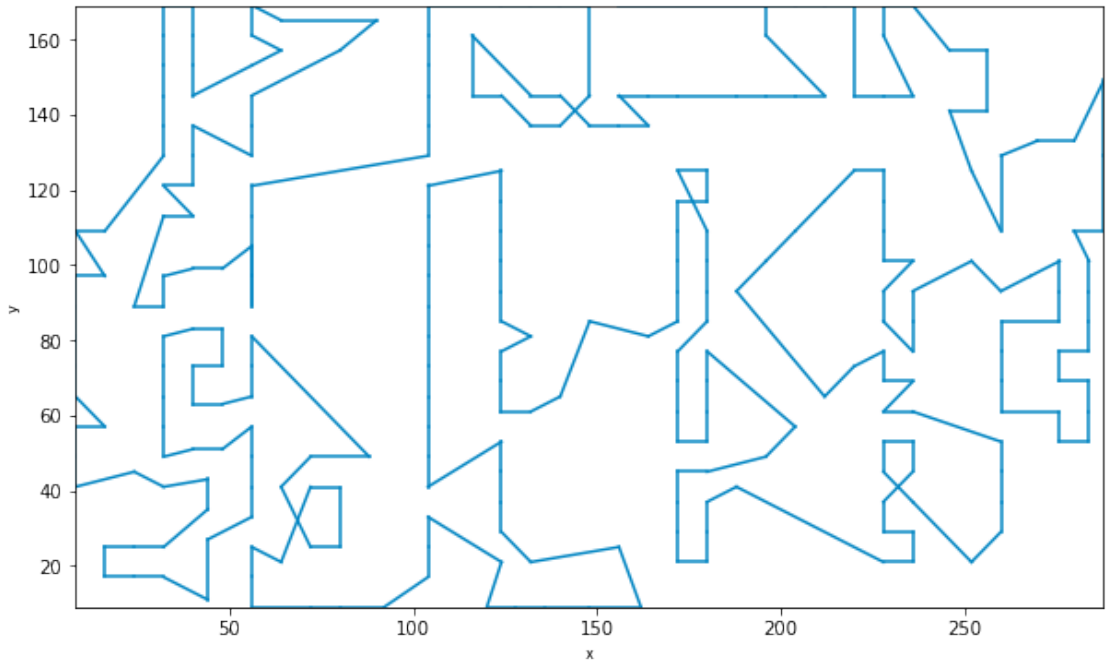
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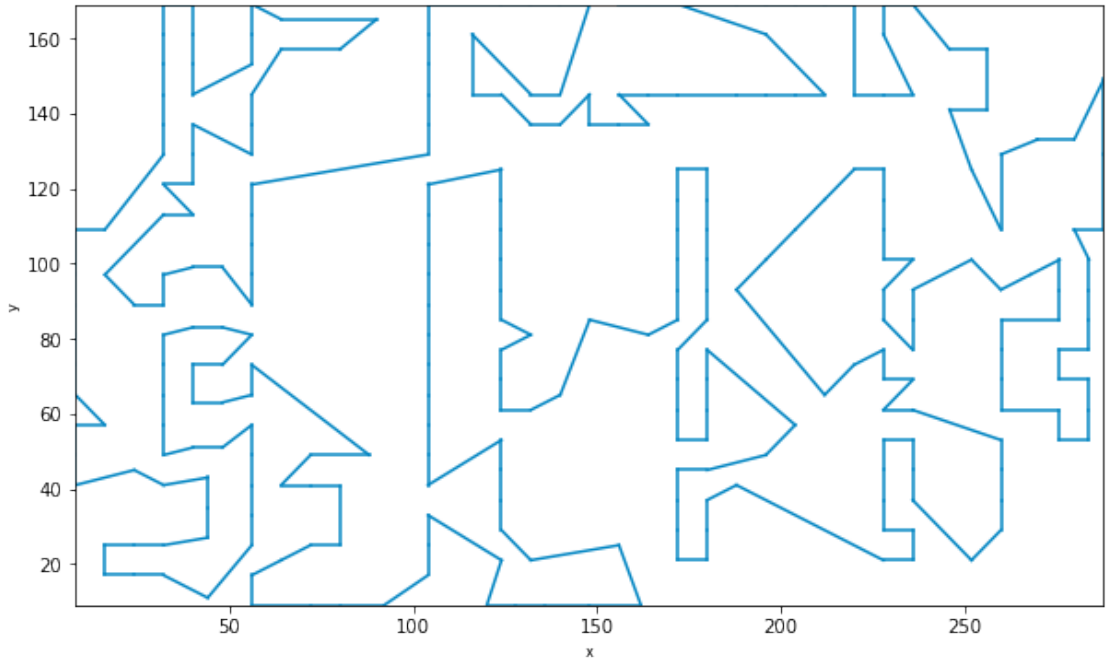
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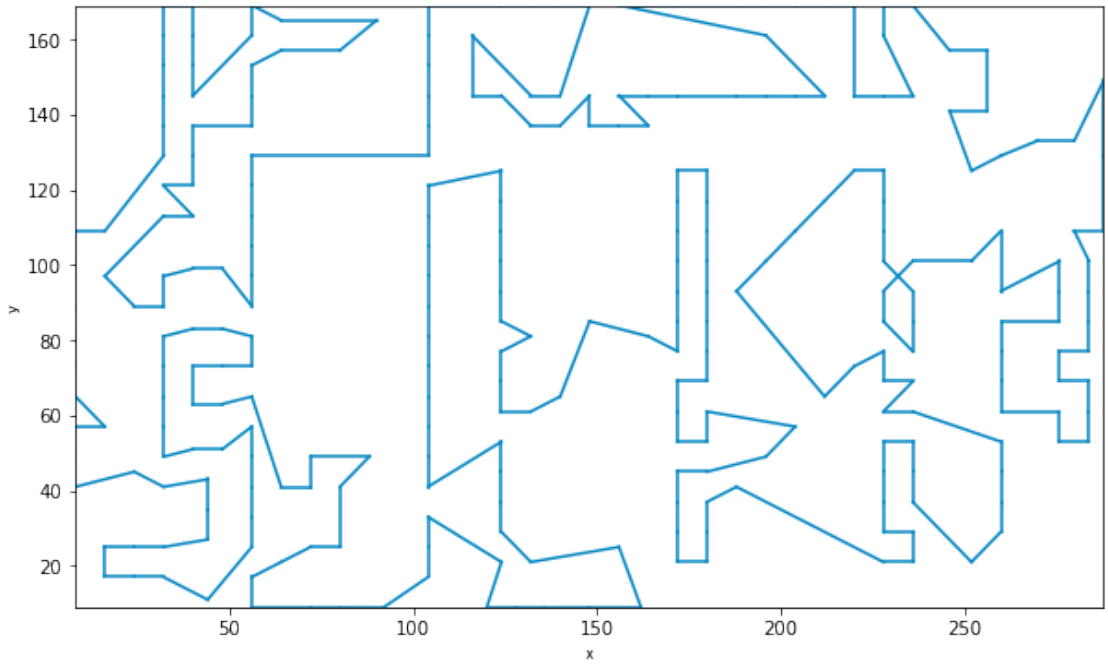
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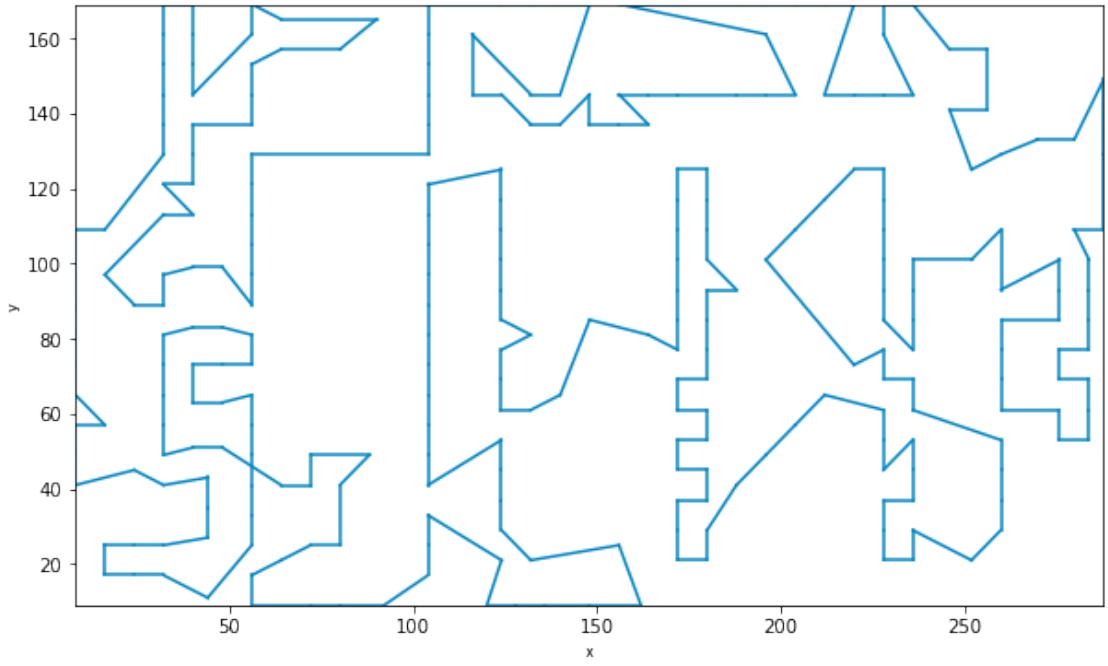
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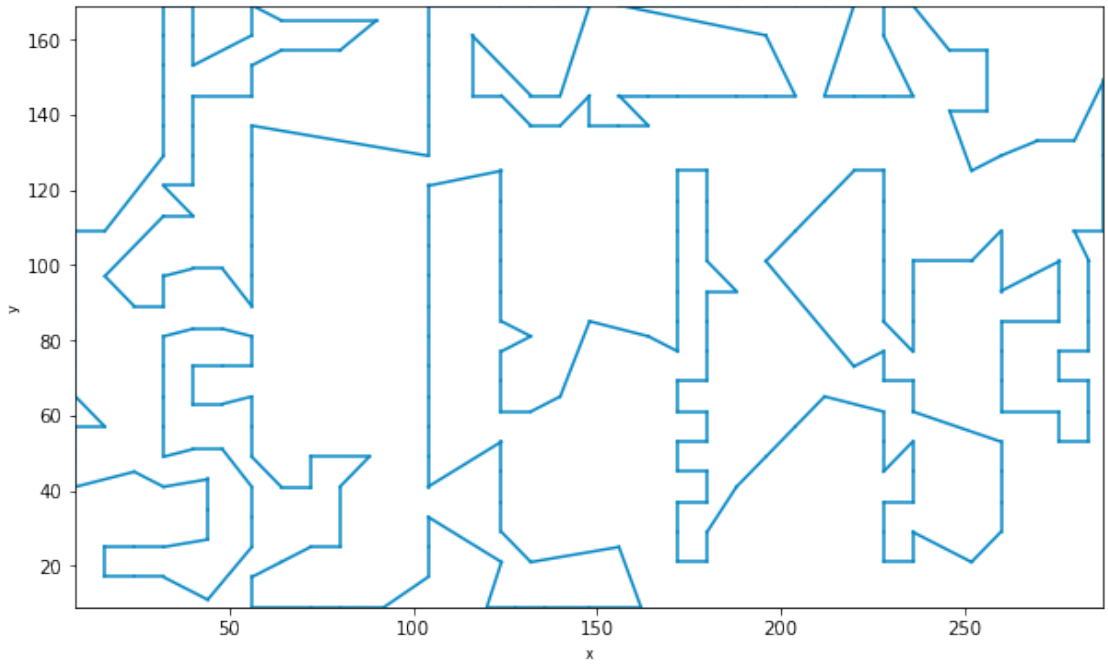
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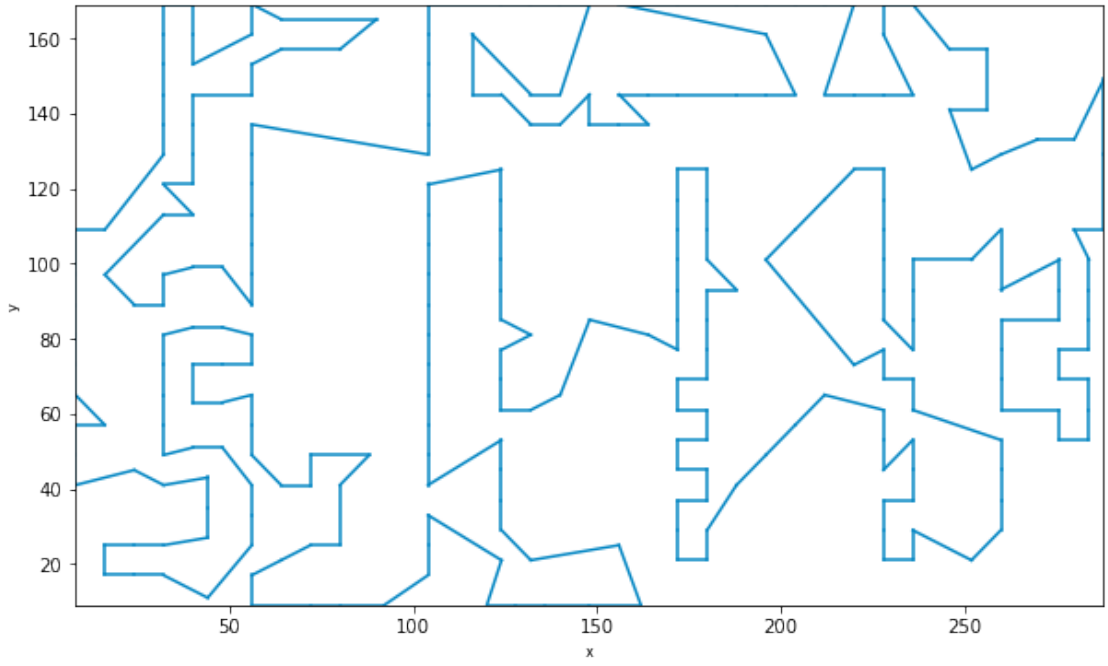
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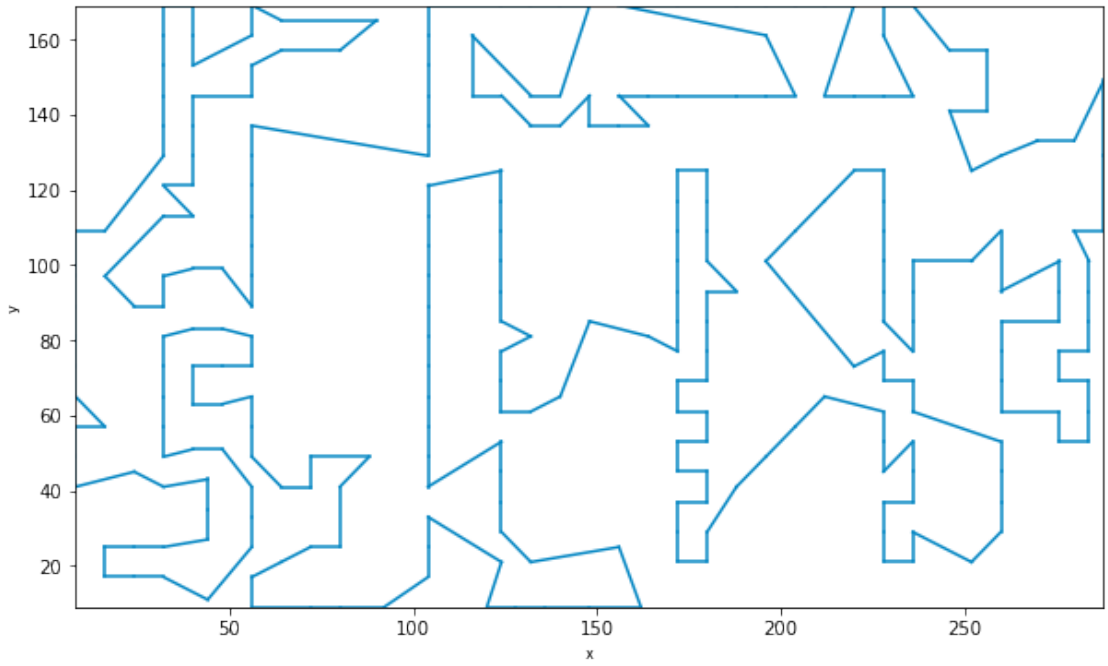

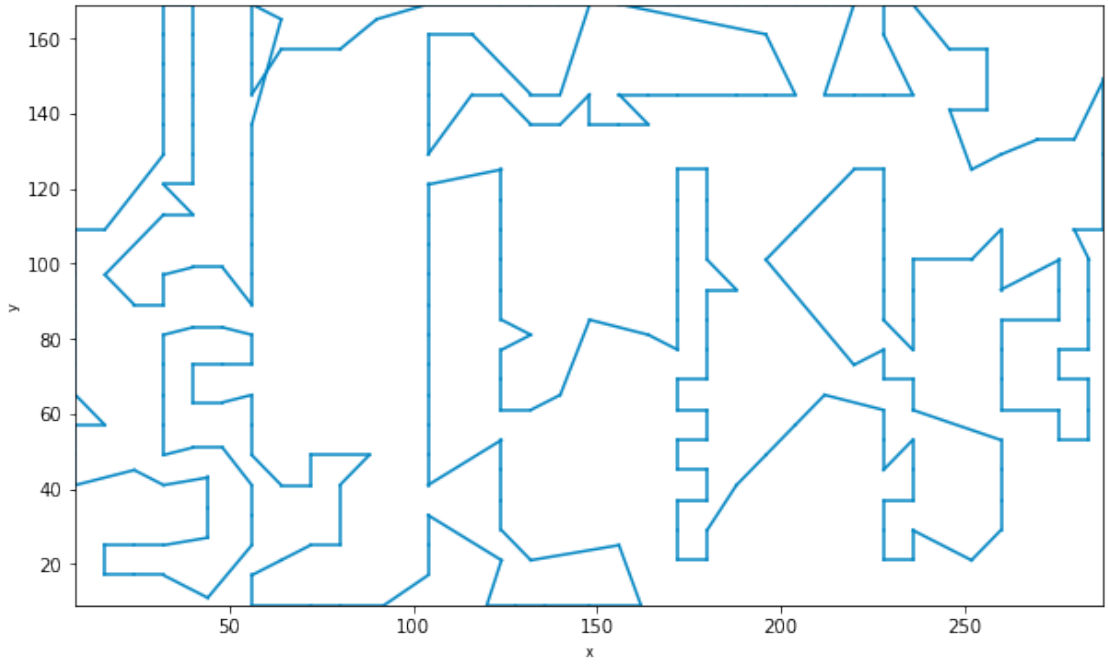

[21]:
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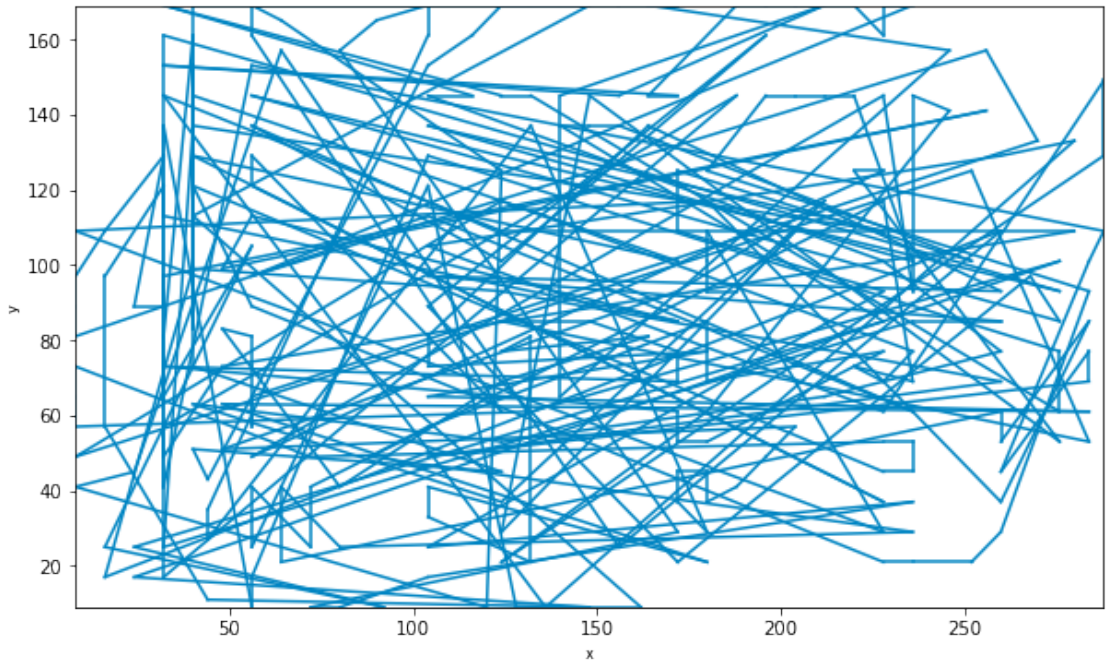
for i in range(9):
    drawPic('sa'+str(i)+'.txt')
```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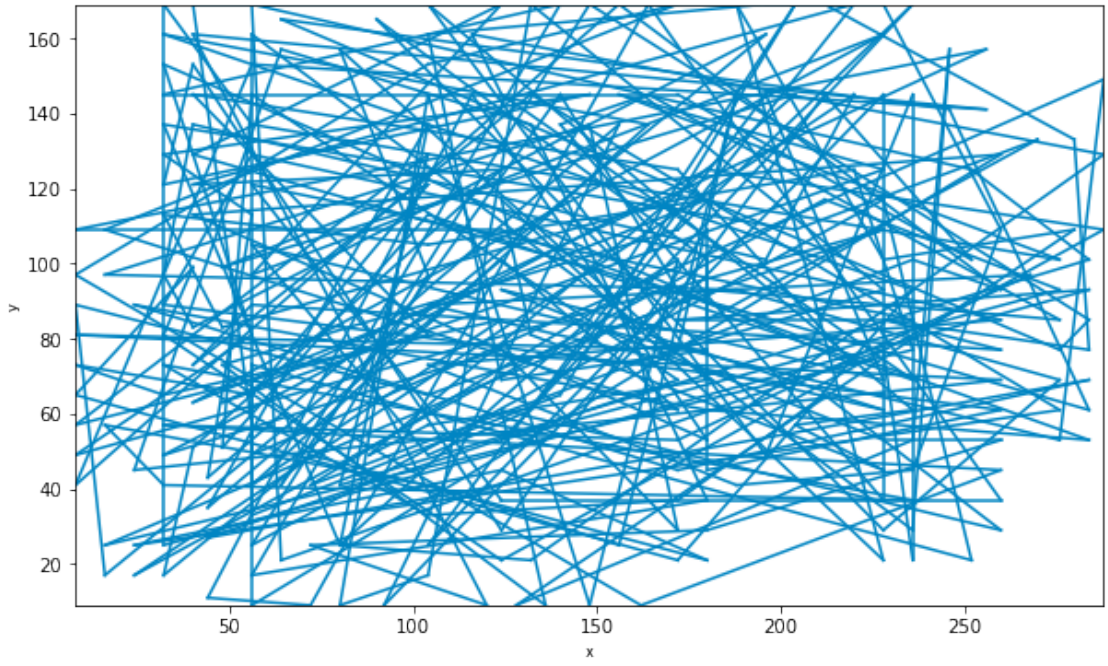
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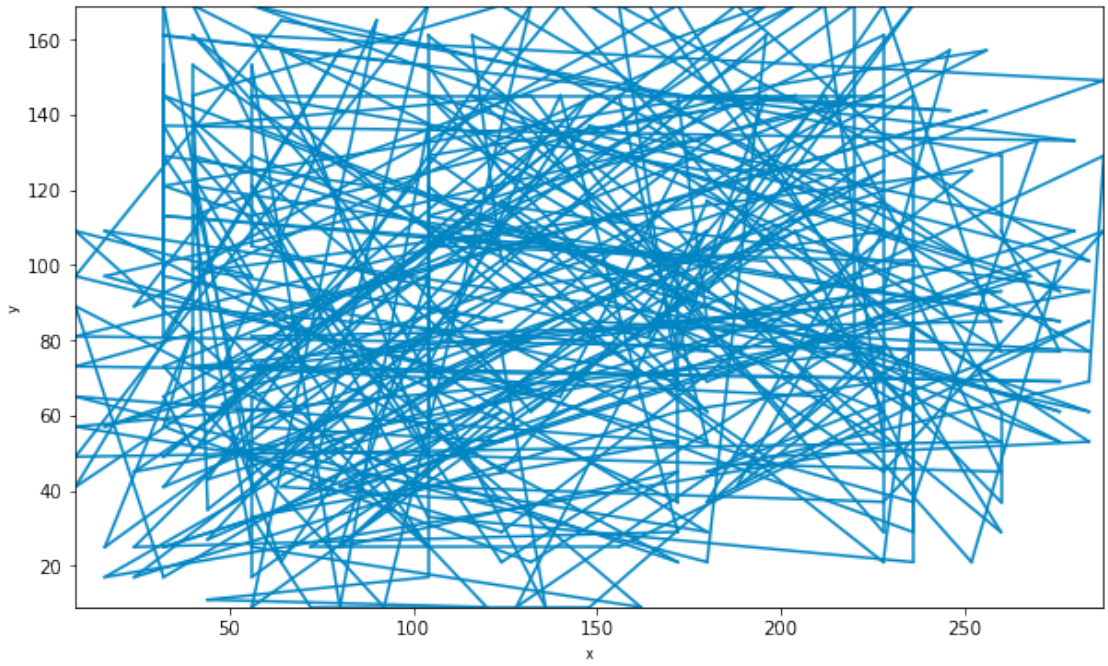
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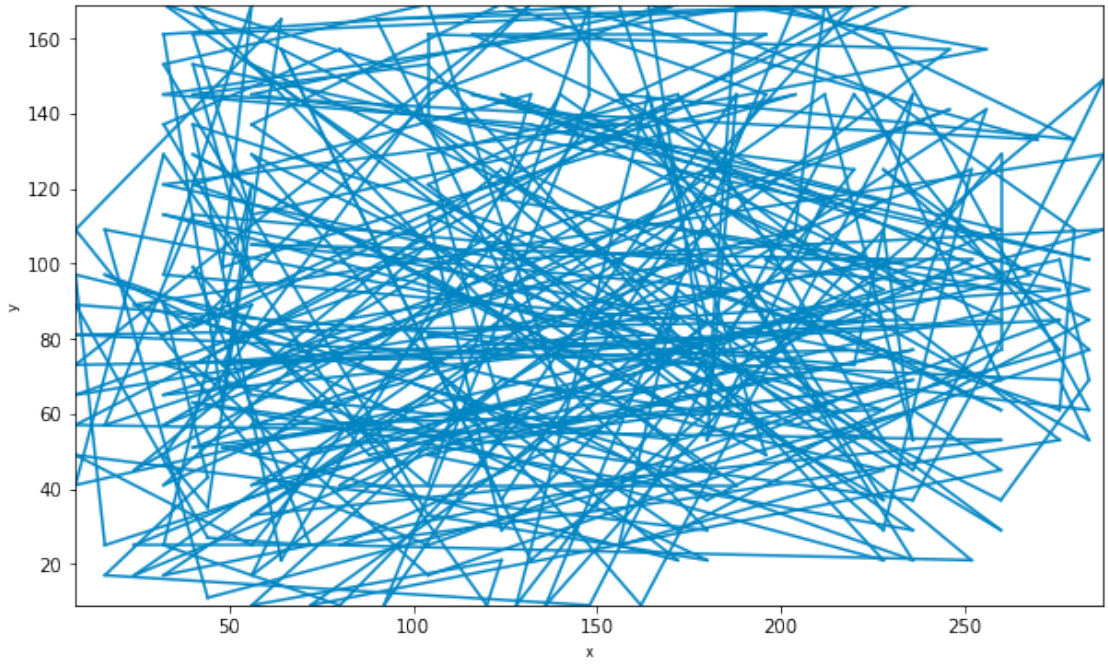
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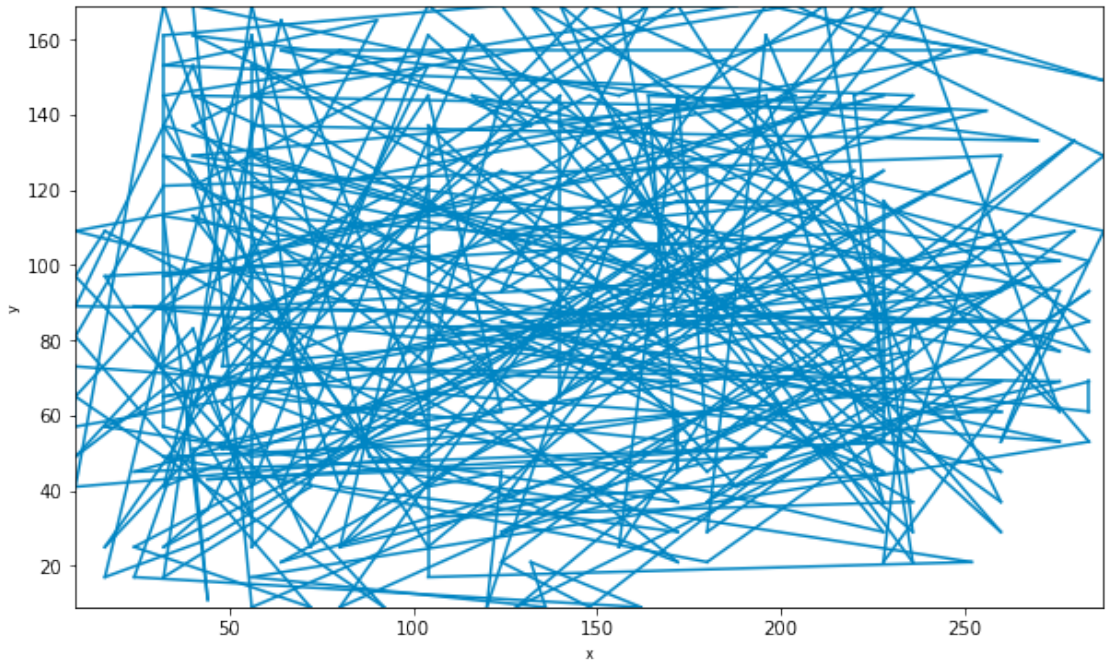
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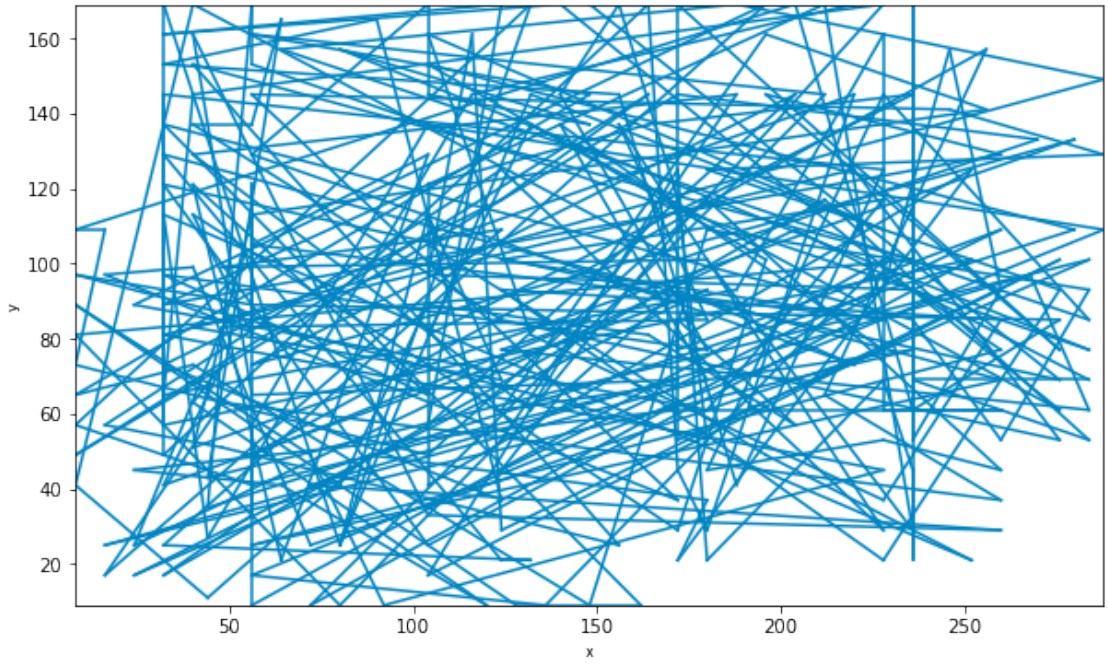
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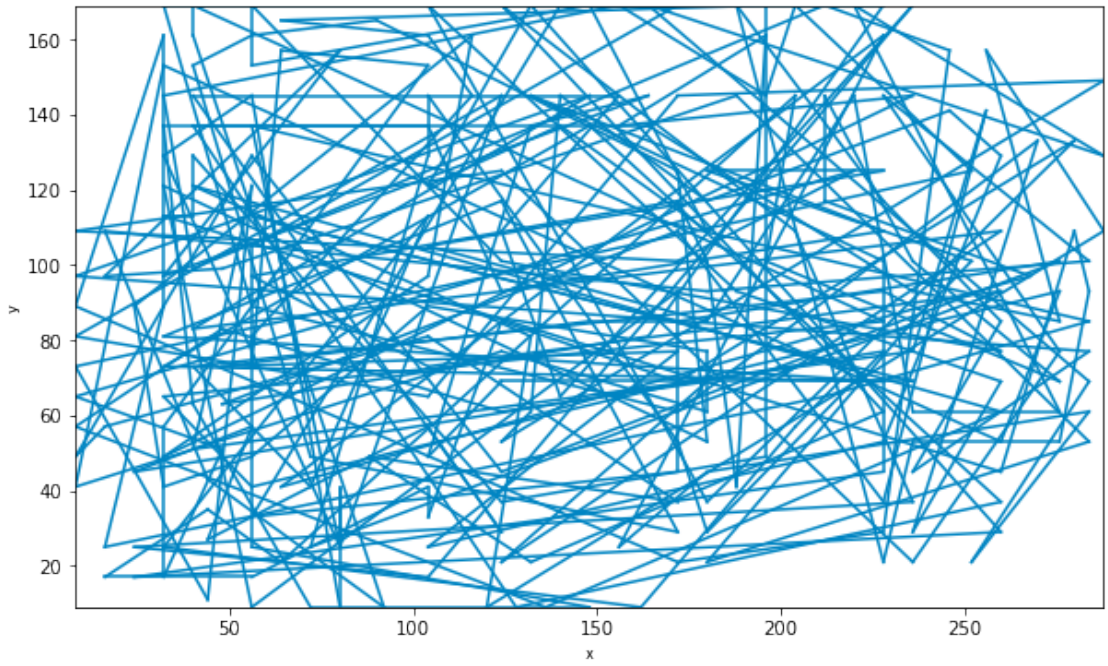
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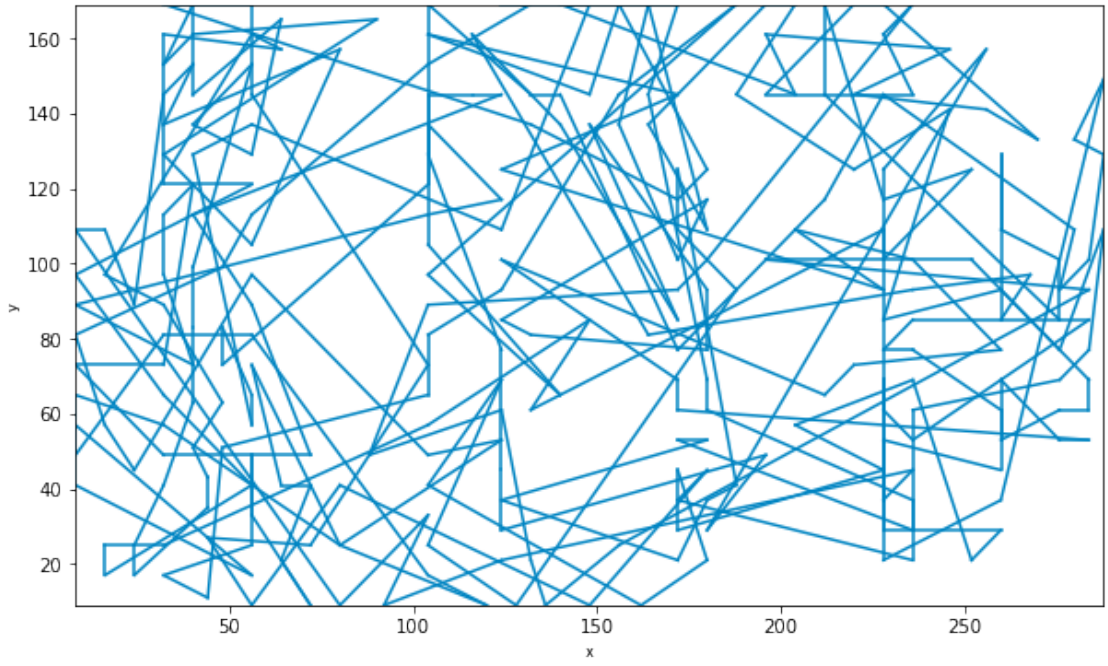
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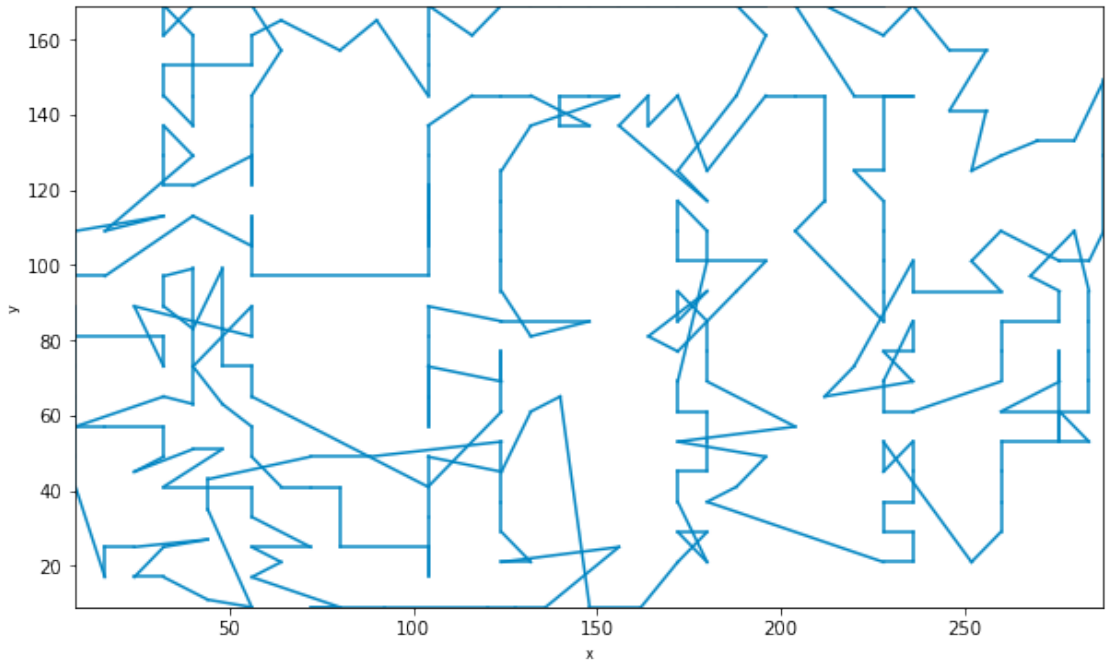
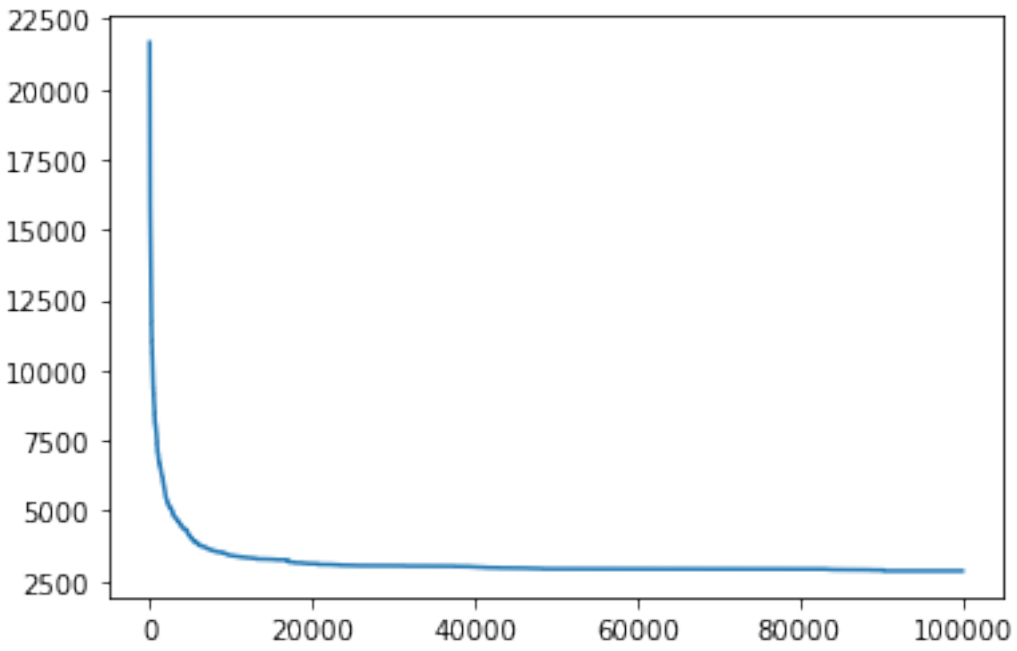
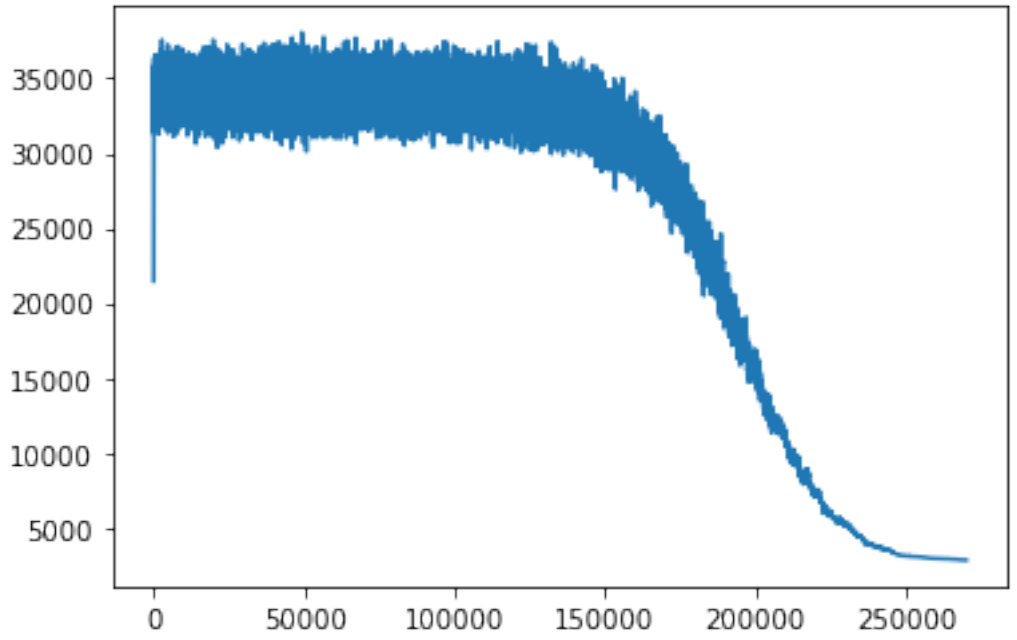


[16]:
```
def convergence(filename):
    with open(filename,'r') as f:
        data = f.readlines()
    lens = [float(i) for i in data]
    plt.plot(lens)
```

[17]:
```
convergence('../result/ls.length')
```



[19]:
```
convergence('../result/sa.length')
```



[ ]:
```
for i in range(5):
    drawPic('sa'+str(i)+'.txt')
```

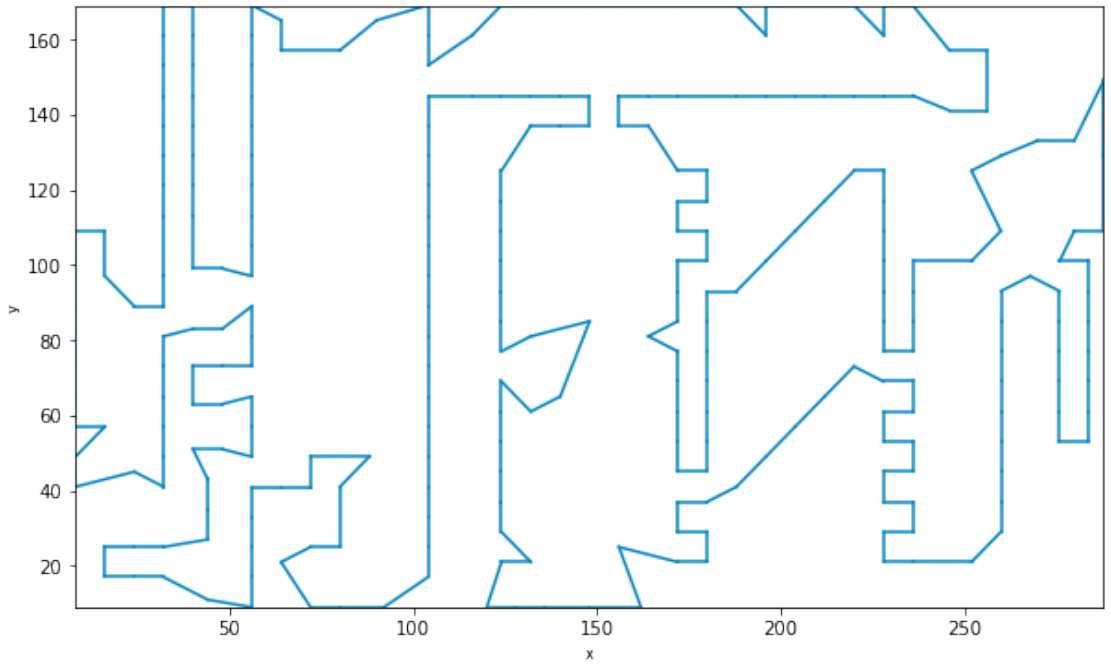
[8]:
```
def drawBest(filename,n,a,b):
    def readPos(filename):
        with open('../tc/'+filename+'.tsp', 'r') as f:
            data = f.readlines()
        return [[int(i.split()[1]),int(i.split()[2])] for i in data[a:a+n]]

    def getPos(_POS_):
        with open('../tc/'+filename+'.opt.tour', 'r') as f:
            data = f.readlines()
        tour = [int(i) for i in data[b:b+n]]
        return [_POS_[i-1] for i in tour]

    _POS_ = readPos(filename)
    pos = getPos(_POS_)

    x = [i[0] for i in pos]
    y = [i[1] for i in pos]
    dots = pos
    plt.figure(figsize=(10,6))
    plt.xlim(min(x),max(x))
    plt.ylim(min(y),max(y))
    plt.xlabel('x',fontproperties="simhei")
    plt.ylabel('y',fontproperties="simhei")
    for i in range(len(dots)-1):
        start = (dots[i][0],dots[i+1][0])
        end = (dots[i][1],dots[i+1][1])
        plt.plot(start,end,color='#0085c3')
    start = (dots[-1][0],dots[0][0])
    end = (dots[-1][1],dots[0][1])
    plt.plot(start,end,color='#0085c3')
    plt.show()
```

[10]:
```
drawBest('a280',280,6,4)
```



[11]:
```
drawBest('kroC100',100,6,5)
```