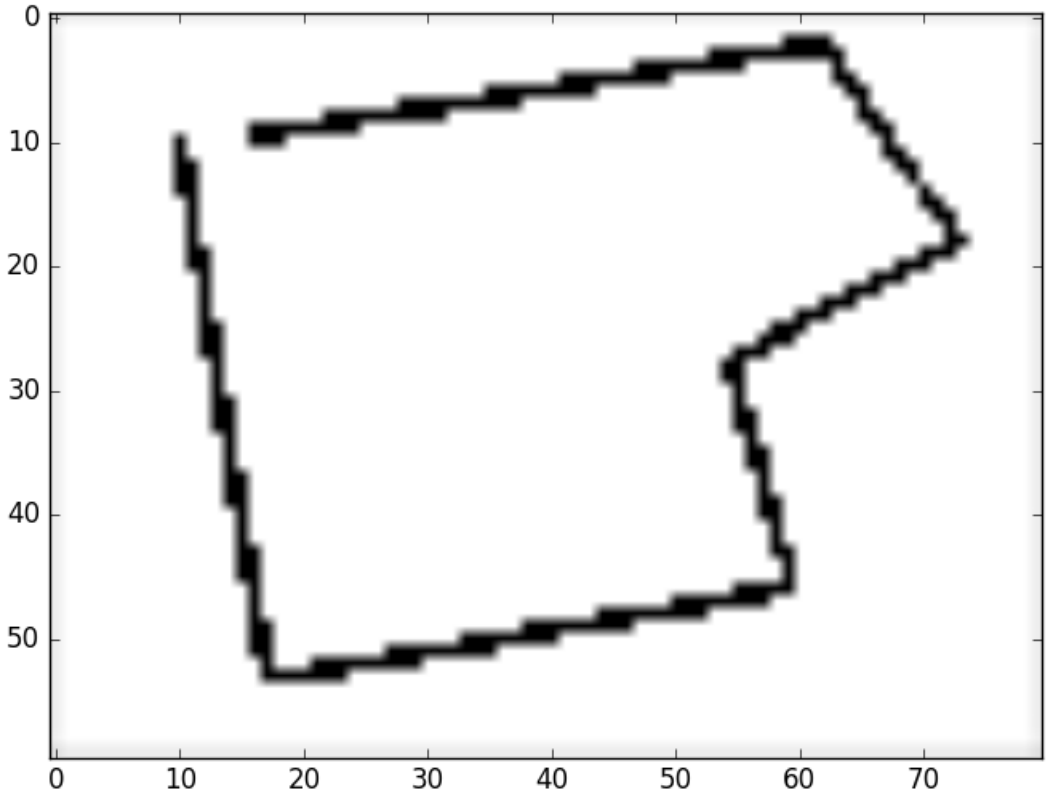
generateProbFieldMap

```
import matplotlib.pyplot as plt
```

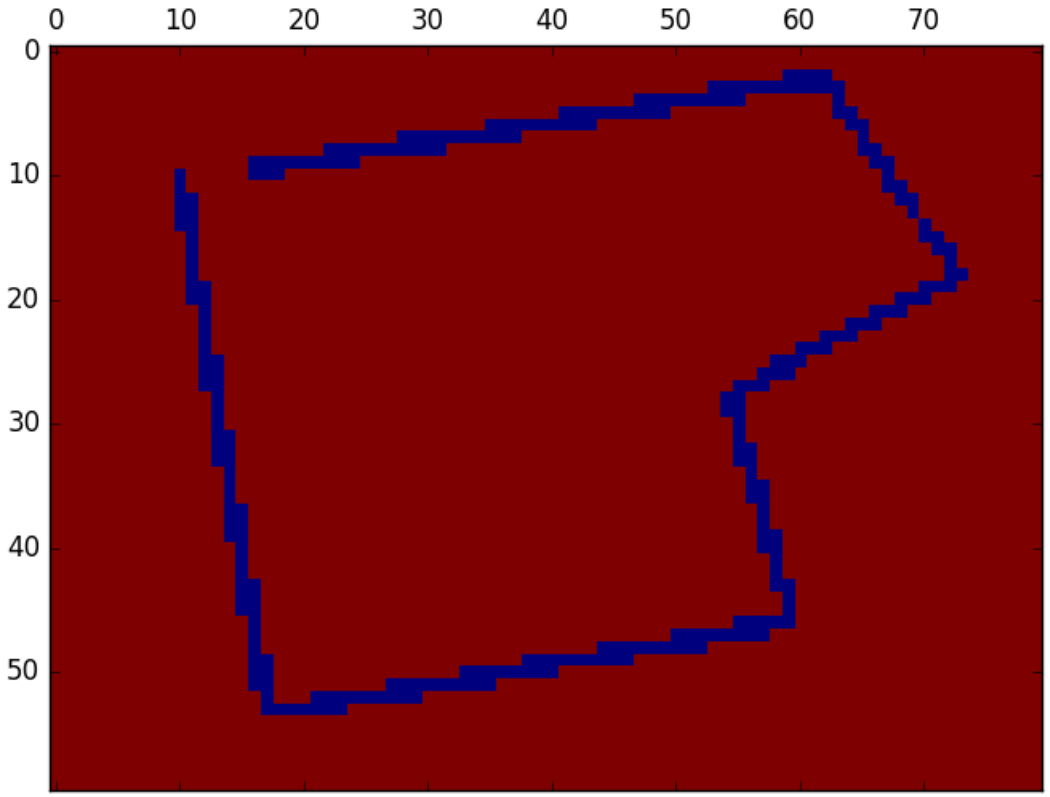
```
# plot image
img = plt.imread('/home/amndan/Desktop/map.png')
print img.shape
plt.imshow(img)
plt.savefig('Histogram.png') #matplotlib has a bug, these lines force the plot to actually be drawn
plt.close()
```

```
(60, 80, 4)
```



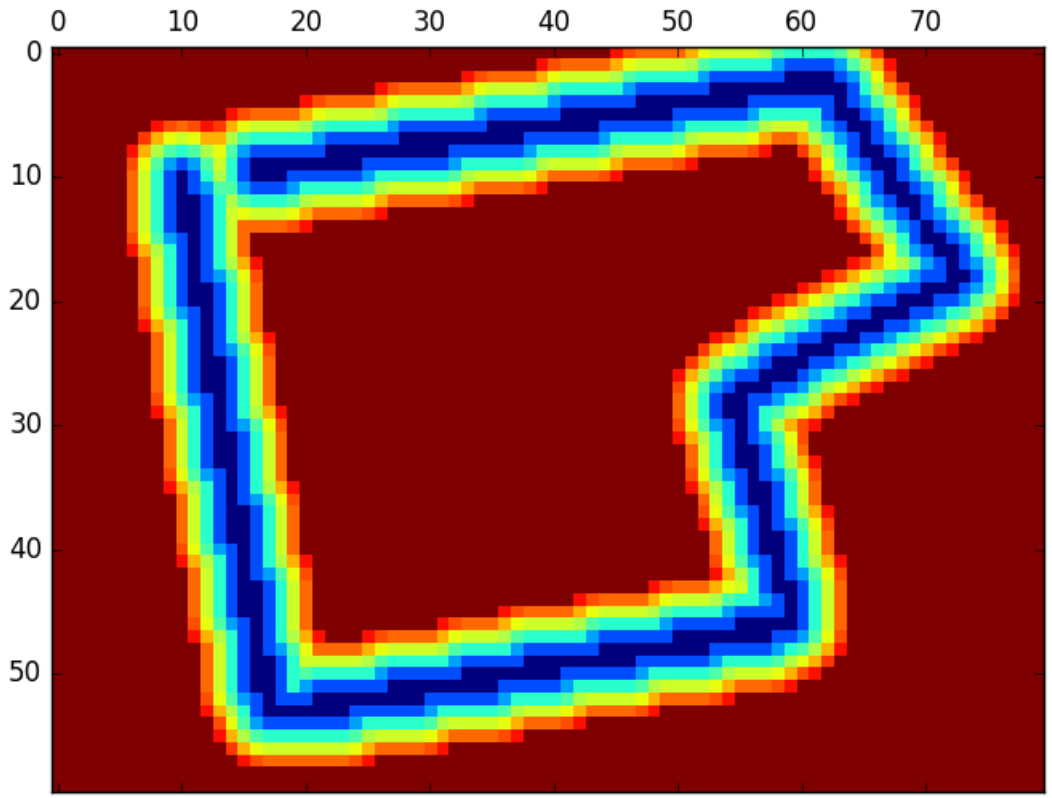

```
imgMat = [[1.0 for _ in range(img.shape[0]) ] for _ in range(img.shape[1])]
for y in range(img.shape[0]):
    for x in range(img.shape[1]):
        if img[y][x][1] == 0.0:
            imgMat[x][y] = 0.0

imgMat = zip(*imgMat)

plt.matshow(imgMat)
```

```
plt.savefig('Histogram.png') #matplotlib has a bug, these lines force the plot to actually be drawn
plt.close()
```




```
# maße in px
# access map through map[y][x]
wallDistance = 5
filterSize = ceil(1.0 * wallDistance)
sizeMapY = len(imgMat)
sizeMapX = len(imgMat[1])
probMat = [[1.0 for _ in range(sizeMapX) ] for _ in range(sizeMapY)]
```

```
for y in range(sizeMapY):
    for x in range(sizeMapX):

        if imgMat[y][x] == 0.0:

            probMat[y][x] = 0.0
            for yf in range(-filterSize, filterSize):
                for xf in range(-filterSize, filterSize):

                    if y+yf >= 0 and y+yf < sizeMapY and x+xf >= 0 and x+xf < sizeMapX:

                        d = float(sqrt((xf)^2 + (yf)^2))
                        if d <= wallDistance:

                            d = d / wallDistance #map to interval [0; 1]
                            probMat[y+yf][x+xf] = min(probMat[y+yf][x+xf], d)


plt.matshow(probMat)
plt.savefig('Histogram.png') #matplotlib has a bug, these lines force the plot to actually be drawn
plt.close()
```


0
10
20
30
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70
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50