

## 組員名單

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## 程式碼

```
import numpy as np
import matplotlib.pyplot as plt
# Head/Antennae/Proboscis
plt.plot([2,23.3],[143,216.884],color="black")
plt.plot([23.3,31.76],[216.884,233.854],color="black")
plt.plot([31.76,46.883],[233.854,249],color="black")
plt.plot([-2,-23.3],[143,216.884],color="black")
plt.plot([-23.3,-31.76],[216.884,233.854],color="black")
plt.plot([-31.76,-46.883],[233.854,249],color="black")
x=np.linspace(-9.28,9.28,1000)
y=np.linspace(130,149,1000)
 \begin{array}{l} x,y = np.meshgrid(x,y) \\ plt.contour(x,y,x**2/19**2+y**2/149**2,[1],colors=["k"]) \end{array} 
plt.contour(x,y,x**2+(y-140)**2,[0.5],colors=["orange"])
\verb|plt.contour(x,y,(x+2)**2+(y-143)**2,[0.5],colors=["orange"]||
plt.contour(x, y, (x-2)**2+(y-143)**2, [0.5], colors=["orange"])
x=np.linspace(-50,50,1000)
y=np.linspace(248,252,1000)
x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x-47.833)**2+(y-250)**2,[2],colors=["orange"]||
plt.contour(x,y,(x+47.833)**2+(y-250)**2,[2],colors=["orange"])
plt.plot([-9.284,9.284],[130,130],color="orange")
x=np.linspace(14.944,-14.944,1000)
y=np.linspace(149.944,132.718,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-9.55)**2+(y-133.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.55)**2+(y-133.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.22)**2+(y-134.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.39)**2+(y-133.78)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.39)**2+(y-133.78)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.22)**2+(y-134.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.88)**2+(y-135.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.88)**2+(y-135.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.7)**2+(y-136.302)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.7)**2+(y-136.302)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.06)**2+(y-135.05)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.06)**2+(y-135.05)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.52)**2+(y-136.93)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.52)**2+(y-136.93)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.33)**2+(y-137.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.33)**2+(y-137.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.14)**2+(y-138.18)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.14)**2+(y-138.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.94)**2+(y-138.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.94)**2+(y-138.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.73)**2+(y-139.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.73)**2+(y-139.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.52)**2+(y-140.02)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.52)**2+(y-140.02)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.31)**2+(y-140.63)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.31)**2+(y-140.63)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.09)**2+(y-141.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.09)**2+(y-141.24)**2,[0.1],colors=["k"])
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plt.contour(x,y,(x-6.86)**2+(y-141.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.86)**2+(y-141.85)**2,[0.1],colors=["k"]
plt.contour(x,y,(x-6.63)**2+(y-142.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.63)**2+(y-142.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.38)**2+(y-143.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.38)**2+(y-143.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.13)**2+(y-143.66)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x+6.13)**2+(y-143.66)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x-5.85)**2+(y-144.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.85)**2+(y-144.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.58)**2+(y-144.83)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.58)**2+(y-144.83)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.29)**2+(y-145.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.29)**2+(y-145.41)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4.98)**2+(y-145.98)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.98)**2+(y-145.98)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4.66)**2+(y-146.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.66)**2+(y-146.55)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x-4.31)*2+(y-147.1)*2,[0.1],colors=["k"])
ptt.contour(x,y,(x+4.31)*2+(y-147.1)*2,[0.1],colors=["k"])
plt.contour(x,y,(x-3.95)**2+(y-147.64)**2,[0.1],colors=["k
plt.contour(x,y,(x+3.95)**2+(y-147.64)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-3.56)**2+(y-148.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+3.56)**2+(y-148.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-3.14)**2+(y-148.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+3.14)**2+(y-148.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-2.68)**2+(y-149.1)**2,[0.1],colors=["k"])
plt.contour(x, y, (x+2.68)**2+(y-149.1)**2, [0.1], colors=["k"])
plt.contour(x,y,(x-3.32)**2+(y-149.28)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+3.32)**2+(y-149.28)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-3.78)**2+(y-148.78)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+3.78)**2+(y-148.78)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4.22)**2+(y-148.26)**2,[0.1],colors=["k"])
plt.contour(x, y, (x+4.22)**2+(y-148.26)**2, [0.1], colors=["k"])
plt.contour(x,y,(x-4.62)**2+(y-147.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.62)**2+(y-147.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6)**2+(y-141)**2,[80],colors=["k"])
plt.contour(x,y,(x+6)**2+(y-141)**2,[80],cotors=[*k"])
plt.contour(x,y,(x+6)**2+(y-147.13)**2,[80],cotors=[*k"])
plt.contour(x,y,(x+5)**2+(y-147.13)**2,[0.1],colors=[*k"])
plt.contour(x,y,(x-5)**2+(y-147.13)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.35)**2+(y-146.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.35)**2+(y-146.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.68)**2+(y-145.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.68)**2+(y-145.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.98)**2+(y-145.37)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.98)**2+(y-145.37)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.25)**2+(y-144.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.25)**2+(y-144.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.55)**2+(y-144.18)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.55)**2+(y-144.18)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.82)**2+(y-143.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.82)**2+(y-143.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.07)**2+(y-142.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.07)**2+(y-142.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.32)**2+(y-142.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.32)**2+(y-142.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.32)**2+(y-142.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.56)**2+(y-141.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.56)**2+(y-141.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.8)**2+(y-141.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.8)**2+(y-141.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.02)**2+(y-140.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.02)**2+(y-140.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.23)**2+(y-139.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.23)**2+(y-139.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.45)**2+(y-139.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.45)**2+(y-139.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.65)**2+(y-138.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.65)**2+(y-138.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.83)**2+(y-137.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.83)**2+(y-137.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.03)**2+(y-137.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.03)**2+(y-137.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.21)**2+(y-136.73)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.21)**2+(y-136.73)**2,[0.1],colors=["k"])
plt.contour(x, y, (x+9.38)**2+(y-136.1)**2, [0.1], colors=["k"])
plt.contour(x,y,(x-9.38)**2+(y-136.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.55)**2+(y-135.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.55)**2+(y-135.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.72)**2+(y-134.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.72)**2+(y-134.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.87)**2+(y-134.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.87)**2+(y-134.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.03)**2+(y-133.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.03)**2+(y-133.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.18)**2+(y-132.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.18)**2+(y-132.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.65)**2+(y-133.4)**2,[0.1],colors=["k"])
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plt.contour(x,y,(x-10.65)**2+(y-133.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.5)**2+(y-134.04)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.5)**2+(y-134.04)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.345)**2+(y-134.67)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.345)**2+(y-134.67)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.19)**2+(y-135.31)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.19)**2+(y-135.31)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.02)**2+(y-135.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.02)**2+(y-135.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.84)**2+(y-136.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.84)**2+(y-136.57)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x-9.67)**2+(y-137.2)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x-9.67)**2+(y-137.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.47)**2+(y-137.83)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-9.47)**2+(y-137.83)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+9.29)**2+(y-138.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.29)**2+(y-138.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.08)**2+(y-139.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.08)**2+(y-139.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.878)**2+(y-139.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.878)**2+(y-139.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.66)**2+(y-140.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.66)**2+(y-140.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.44)**2+(y-140.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.44)**2+(y-140.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.22)**2+(y-141.58)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.22)**2+(y-141.58)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.97)**2+(y-142.21)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.97)**2+(y-142.21)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.73)**2+(y-142.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.73)**2+(y-142.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.48)**2+(y-143.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.48)**2+(y-143.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.22)**2+(y-144.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.22)**2+(y-144.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.93)**2+(y-144.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.93)**2+(y-144.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.64)**2+(y-145.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.64)**2+(y-145.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.34)**2+(y-145.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.34)**2+(y-145.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.05)**2+(y-146.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.05)**2+(y-146.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.68)**2+(y-147.13)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.68)**2+(y-147.13)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.31)**2+(y-147.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.31)**2+(y-147.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.92)**2+(y-148.31)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4.92)**2+(y-148.31)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.49)**2+(y-148.89)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.49)**2+(y-148.89)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+4)**2+(y-149.39)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4)**2+(y-149.39)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.15)**2+(y-13.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.15)**2+(y-133.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11)**2+(y-134.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11)**2+(y-134.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.85)**2+(y-135.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.67)**2+(y-135.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.67)**2+(y-135.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.67)**2+(y-135.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.5)**2+(y-136.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.5)**2+(y-136.45)**2,[0.1],colors=["k"])
\verb"plt.contour"(x,y,(x+10.32)**2+(y-137.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.32)**2+(y-137.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.13)**2+(y-137.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.13)**2+(y-137.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.94)**2+(y-138.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.94)**2+(y-138.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.72)**2+(y-138.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.72)**2+(y-138.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.54)**2+(y-139.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.54)**2+(y-139.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.32)**2+(y-140.23)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.32)**2+(y-140.23)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.08)**2+(y-140.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.08)**2+(y-140.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.87)**2+(y-141.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.87)**2+(y-141.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.63)**2+(y-142.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.63)**2+(y-142.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.39)**2+(y-142.73)**2,[0.1],colors=["k
plt.contour(x,y,(x-8.39)**2+(y-142.73)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.17)**2+(y-143.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.17)**2+(y-143.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.9)**2+(y-144.03)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.9)**2+(y-144.03)**2,[0.1],colors=["k"])
```

```
plt.contour(x,y,(x+7.61)**2+(y-144.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.61)**2+(y-144.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.34)**2+(y-145.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.34)**2+(y-145.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.02)**2+(y-145.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.02)**2+(y-145.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.72)**2+(y-146.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.72)**2+(y-146.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.38)**2+(y-147.12)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.38)**2+(y-147.12)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.99)**2+(y-147.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.99)**2+(y-147.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.59)**2+(y-148.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.59)**2+(y-148.33)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x+5.16)**2+(y-148.95)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x-5.16)**2+(y-148.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-0.10)--2+(y-148.95)^-2,[0.1],colors=["k"])
plt.contour(x,y,(x+4.67)**2+(y-149.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-4.67)**2+(y-149.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.34)**2+(y-149.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.34)**2+(y-149.59)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+5.86)**2+(y-148.99)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-5.86)**2+(y-148.99)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.29)**2+(y-148.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.29)**2+(y-148.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.68)**2+(y-147.75)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.68)**2+(y-147.75)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.07)**2+(y-147.1)**2,[0.1],colors=["k"])
plt.contour(x, y, (x-7.07)**2+(y-147.1)**2, [0.1], colors=["k"])
plt.contour(x,y,(x+7.39)**2+(y-146.49)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.39)**2+(y-146.49)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.69)**2+(y-145.88)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.69)**2+(y-145.88)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8)**2+(y-145.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8)**2+(y-145.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.3)**2+(y-144.58)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.3)**2+(y-144.58)**2,[0.1],colors=["k"])
\verb"plt.contour"(x,y,(x+8.58)**2+(y-143.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.58)**2+(y-143.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.85)**2+(y-143.29)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.85)**2+(y-143.29)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.05)**2+(y-142.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.05)**2+(y-142.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.29)**2+(y-142.02)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.29)**2+(y-142.02)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.55)**2+(y-141.36)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.55)**2+(y-141.36)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.8)**2+(y-140.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.8)**2+(y-140.72)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.98)**2+(y-140.09)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.98)**2+(y-140.09)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.19)**2+(y-139.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.19)**2+(y-139.46)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.39)**2+(y-138.83)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.39)**2+(y-138.83)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.58)**2+(y-138.21)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.58)**2+(y-138.21)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.77)**2+(y-137.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.77)**2+(y-137.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11)**2+(y-136.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11)**2+(y-136.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.2)**2+(y-136.26)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.2)**2+(y-136.26)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.33)**2+(y-135.615)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.33)**2+(y-135.615)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.48)**2+(y-134.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.48)**2+(y-134.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.63)**2+(y-134.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.63)**2+(y-134.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.15)**2+(y-134.75)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.15)**2+(y-134.75)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x+12)**2+(y-135.43)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x+12)**2+(y-135.43)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x+11.86)**2+(y-136.1)**2,[0.1],colors=["k"])
ptt.contour(x,y,(x-11.86)**2+(y-136.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.68)**2+(y-136.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.68)**2+(y-136.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.45)**2+(y-137.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.45)**2+(y-137.45)*2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.22)**2+(y-138.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.22)**2+(y-138.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.05)**2+(y-138.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.05)**2+(y-138.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.85)**2+(y-139.34)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.85)**2+(y-139.34)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.66)**2+(y-139.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.66)**2+(y-139.97)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.45)**2+(y-140.58)**2,[0.1],colors=["k"])
```

```
plt.contour(x,y,(x-10.45)**2+(y-140.58)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.24)**2+(y-141.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.24)**2+(y-141.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.95)**2+(y-141.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.95)**2+(y-141.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.72)**2+(y-142.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.72)**2+(y-142.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.51)**2+(y-143.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.51)**2+(y-143.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.28)**2+(y-143.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.28)**2+(y-143.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9)**2+(y-144.52)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9)**2+(y-144.52)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.7)**2+(y-145.17)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.7)**2+(y-145.17)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.4)**2+(y-145.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.4)**2+(y-145.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.1)**2+(y-146.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.1)**2+(y-146.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.78)**2+(y-147.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.78)**2+(y-147.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.4)**2+(y-147.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.4)**2+(y-147.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7)**2+(y-148.38)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7)**2+(y-148.38)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.58)**2+(y-149)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+6.58)**2+(y-149)**2,[0.1],colors=["k"])
plt.contour(x, y, (x-6.02)**2+(y-149.65)**2, [0.1], colors=["k
plt.contour(x,y,(x+6.02)**2+(y-149.65)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-12.64)**2+(y-135.22)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+12.64)**2+(y-135.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.5)**2+(y-135.88)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.5)**2+(y-135.88)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.36)**2+(y-136.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.36)**2+(y-136.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.1)**2+(y-137.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.1)**2+(y-137.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.91)**2+(y-137.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.91)**2+(y-137.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.7)**2+(y-138.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.7)**2+(y-138.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.5)**2+(y-139.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.5)**2+(y-139.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.32)**2+(y-139.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.32)**2+(y-139.84)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.1)**2+(y-140.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.1)**2+(y-140.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.87)**2+(y-141.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.87)**2+(y-141.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.6)**2+(y-141.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.6)**2+(y-141.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.4)**2+(y-142.43)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.4)**2+(y-142.43)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.2)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.2)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.93)**2+(y-143.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.93)**2+(y-143.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.68)**2+(y-144.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.68)**2+(y-144.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.68)**2+(y-145.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.4)**2+(y-145.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.1)**2+(y-145.75)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.1)**2+(y-145.75)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.8)**2+(y-146.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.8)**2+(y-146.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.45)**2+(y-147.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.45)**2+(y-147.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.1)**2+(y-147.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.1)**2+(y-147.7)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.65)**2+(y-148.34)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.65)**2+(y-148.34)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.25)**2+(y-149)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.25) 2+(y-149) -2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.25) *2+(y-149)*2,[0.1],colors=["k"])
plt.contour(x,y,(x-6.7)**2+(y-149.67)**2,[0.1],colors=["k"])
plt.contour(x, y, (x+6.7)**2+(y-149.67)**2, [0.1], colors=["k"])
plt.contour(x,y,(x-7.4)**2+(y-149.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.4)**2+(y-149.68)**2,[0.1],colors=["k"])
# plt.contour(x,y,(x-8.5)**2,(y-148.4)**2,[0.2],colors=["k"])
# plt.contour(x,y,(x-8.5)**2/2,(y-148.4)**2/6,[0.1],colors=["k"])
plt.contour(x,y,(x-3.15)*2+(y-135.67)*2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.15)*2+(y-135.67)*2,[0.1],colors=["k"])
plt.contour(x,y,(x-13)**2+(y-136.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13)**2+(y-136.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.2)**2+(y-137.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.87)**2+(y-137.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.63)**2+(y-136.12)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.63)**2+(y-136.12)**2,[0.1],colors=["k"])
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plt.contour(x,y,(x-13.55)**2+(y-136.87)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.5)**2+(y-136.82)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.56)**2+(y-137.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.56)**2+(y-137.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.38)**2+(y-138.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.38)**2+(y-138.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.05)**2+(y-138.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.05)**2+(y-138.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.15)**2+(y-139.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.18) 2*(y-139.87) 2*(y-13).07) *2*(y-13).07) *2*(y-
ptt.contour(x,y,(x+12.82)**2+(y-138.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.5)**2+(y-138.96)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.5)**2+(y-138.82)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-13.71)**2+(y-138.15)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x-12)**2+(y-139.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12) 2-(y-133.74) 2-(0.1],colors=["k"])
plt.contour(x,y,(x+12)**2+(y-139.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.78)**2+(y-140.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.78)**2+(y-140.4)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.52)**2+(y-141.01)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.52)**2+(y-141.01)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.25)**2+(y-141.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.25)**2+(y-141.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.05)**2+(y-142.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.05)**2+(y-142.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.85)**2+(y-142.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.85)**2+(y-142.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.6)**2+(y-143.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.6)**2+(y-143.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.3)**2+(y-144.22)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.02)**2+(y-144.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.02) 2+(y-144.05) 2,(0.1],culors=["k"])
plt.contour(x,y,(x+10.02)**2+(y-144.05)**2,[0.1],culors=["k"])
plt.contour(x,y,(x-9.75)**2+(y-145.05)**2,[0.1],culors=["k"])
plt.contour(x,y,(x+9.75)**2+(y-145.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.45)**2+(y-146.31)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x+9.45)**2+(y-146.31)**2,[0.1],colors=["k"]||
 \begin{array}{l} {\tt plt.contour(x,y,(x-9.1)^**2+(y-146.98)^**2,[0.1],colors=["k"])} \\ {\tt plt.contour(x,y,(x+9.1)^**2+(y-146.98)^**2,[0.1],colors=["k"])} \end{array} 
plt.contour(x,y,(x-8.76)**2+(y-147.64)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.76)**2+(y-147.64)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.61)**2+(y-139.56)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.61)**2+(y-139.56)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.42)**2+(y-140.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.42)**2+(y-140.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.17)**2+(y-140.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.17)**2+(y-140.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.9)**2+(y-141.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.9)**2+(y-141.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.69)**2+(y-142.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.69)**2+(y-142.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.5)**2+(y-142.79)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.5)**2+(y-142.79)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.25)**2+(y-143.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.25)**2+(y-143.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.97)**2+(y-144.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.97)**2+(y-144.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.65)**2+(y-144.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.65)**2+(y-144.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.41)**2+(y-145.51)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.41)**2+(y-145.51)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.1)**2+(y-146.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.1)**2+(y-146.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.75)**2+(y-146.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.75)**2+(y-146.9)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.42)**2+(y-147.56)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.42)**2+(y-147.56)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.15)**2+(y-148.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.15)**2+(y-148.16)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-7.9)**2+(y-148.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+7.9)**2+(y-148.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.08)**2+(y-149.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.08)**2+(y-149.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.08)**2+(y-149.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.27)**2+(y-139.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.06)**2+(y-140.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.06)**2+(y-140.06)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.8)**2+(y-140.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.8)**2+(y-140.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.55)**2+(y-141.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.55)**2+(y-141.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.35)**2+(y-142.05)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.35)**2+(y-142.05)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.14)**2+(y-142.65)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x+12.14)**2+(y-142.65)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x-11.9)**2+(y-143.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.9)**2+(y-143.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.6)**2+(y-144)**2,[0.1],colors=["k"])
```

```
plt.contour(x,y,(x+11.6)**2+(y-144)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.3)**2+(y-144.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.3)**2+(y-144.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.85)**2+(y-137.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.85)**2+(y-137.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.04)**2+(y-145.31)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.04)**2+(y-145.31)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-10.75)**2+(y-146.08)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+10.75)**2+(y-146.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.4)**2+(y-146.79)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.4)**2+(y-146.79)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.07)**2+(y-147.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.07)**2+(y-147.47)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.79)**2+(y-148.09)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.79)**2+(y-148.09)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.32)**2+(y-137.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.32)**2+(y-137.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.12)**2+(y-138.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.12)**2+(y-138.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.92)**2+(y-139.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.92)**2+(y-139.33)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.7)**2+(y-139.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.7)**2+(y-139.94)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.43)**2+(y-140.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.43)**2+(y-140.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.18)**2+(y-141.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.18)**2+(y-141.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13)**2+(y-141.93)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13)**2+(y-141.93)**2,[0.1],colors=["k"])
\verb"plt.contour"(x,y,(x-12.8)**2+(y-142.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.8)**2+(y-142.55)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.85)**2+(y-143.18)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.55)**2+(y-143.18)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.25)**2+(y-143.88)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.25)**2+(y-143.88)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-11.94)**2+(y-144.56)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+11.94)**2+(y-144.56)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.7)**2+(y-145.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.7)**2+(y-145.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.38)**2+(y-145.87)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.38)**2+(y-145.87)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.05)**2+(y-146.67)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.05)**2+(y-146.67)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.72)**2+(y-147.36)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.72)**2+(y-147.36)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.44)**2+(y-148.01)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.44)**2+(y-148.01)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.73)**2+(y-138.43)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.73)**2+(y-138.43)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.55)**2+(y-139.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.55)**2+(y-139.15)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.34)**2+(y-139.82)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.34)**2+(y-139.82)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.08)**2+(y-140.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.08)**2+(y-140.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.82)**2+(y-141.13)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.82)**2+(y-141.13)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.64)**2+(y-141.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.64)**2+(y-141.77)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.45)**2+(y-142.42)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.45)**2+(y-142.42)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.2)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.2)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.9)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.9)**2+(y-143.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.6)**2+(y-144.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.6)**2+(y-144.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.34)**2+(y-145.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.34)**2+(y-145.08)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.03)**2+(y-145.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.03)**2+(y-145.85)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.66)**2+(y-146.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.66)**2+(y-146.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.38)**2+(y-147.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.38)**2+(y-147.25)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.1)**2+(y-147.92)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.1)**2+(y-147.92)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-14.98)**2+(y-139.65)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+14.98)**2+(y-139.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.72)**2+(y-140.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.72)**2+(y-140.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.45)**2+(y-141)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.45)**2+(y-141)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.26)**2+(y-141.61)**2,[0.1],colors=["k"])
ptl.contour(x,y,(x+14.26) **2+(y-141.61) **2,[0.1],colors=["k"])
ptl.contour(x,y,(x+14.26) **2+(y-141.26) **2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.1)**2+(y-142.26)**2,[0.1],colors=["k"])
```

```
plt.contour(x,y,(x-13.85)**2+(y-142.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.85)**2+(y-142.95)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.56)**2+(y-143.63)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.56)**2+(y-144.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.24)**2+(y-144.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.24)**2+(y-144.3)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13)**2+(y-144.98)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13)**2+(y-144.98)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.65)**2+(y-145.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.65)**2+(y-145.65)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.32)**2+(y-146.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.32)**2+(y-146.45)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12)**2+(y-147.03)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12)**2+(y-147.03)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-9.53)**2+(y-148.68)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+9.53)**2+(y-148.68)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.18)**2+(y-148.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.18)**2+(y-148.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-10.83)**2+(y-148.54)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+10.83)**2+(y-148.54)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-11.75)**2+(y-147.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+11.75)**2+(y-147.8)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.92)**2+(y-149.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.92)**2+(y-149.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-15.1)**2+(y-140.89)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.89)**2+(y-141.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.89)**2+(y-141.48)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.73)**2+(y-142.1)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.73)**2+(y-142.1)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-14.49)**2+(y-142.79)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+14.49)**2+(y-142.79)*2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.49)**2+(y-143.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.19)**2+(y-143.5)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.88)**2+(y-144.2)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.88)**2+(y-144.2)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x-13.65)**2+(y-144.83)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x+13.65)**2+(y-144.83)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.31)**2+(y-145.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.31)**2+(y-145.57)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.94)**2+(y-146.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.94)**2+(y-146.24)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-12.65)**2+(y-147.01)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.65)**2+(y-147.6))**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.35)**2+(y-147.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+12.35)**2+(y-147.6)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.52)**2+(y-149.12)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.52)**2+(y-149.12)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-8.89)**2+(y-148.75)**2,[0.1],colors=["k"])
\verb|plt.contour(x,y,(x+8.89)**2+(y-148.75)**2,[0.1],colors=["k"]||
plt.contour(x,y,(x-8.7)**2+(y-149.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.7)**2+(y-149.74)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-9.22)**2+(y-149.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+9.22)**2+(y-149.32)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.82)**2+(y-143.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.82)**2+(y-143.35)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.53)**2+(y-144.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.53)**2+(y-144.07)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-14.3)**2+(y-144.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+14.3)**2+(y-144.71)**2,[0.1],colors=["k"])
plt.contour(x,y,(x-13.95)**2+(y-145.42)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.95)**2+(y-145.42)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+8.38)**2+(y-148.32)**2,[0.1],colors=["k"])
\verb"plt.contour"(x,y,(x+13.69)**2+(y-138.14)**2,[0.1],colors=["k"])
plt.contour(x,y,(x+13.22)**2+(y-137.69)**2,[0.1],colors=["k"])
\verb"plt.contour"(x,y,(x-12.8)**2+(y-137.11)**2,[0.1],colors=["k"])
x=np.linspace(-9.823,-2.1945,1000)
y=np.linspace(132.914,115.593,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+6)**2+(y-141)**2,[80],colors=["k"])
x=np.linspace(-9.823,-9.325,1000)
y=np.linspace(132.914,115.593,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+6)**2+(y-141)**2,[80],colors=["k"])
x=np.linspace(2.194,9.823,1000)
y=np.linspace(132.914,149.094,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-6)**2+(y-141)**2,[80],colors=["k"])
x=np.linspace(9.325,9.823,1000)
y=np.linspace(132.697,132.914,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-6)**2+(y-141)**2,[80],colors=["k"])
plt.plot ([-10,0],[127,125],color="black")
plt.plot ([0,10],[125,127],color="black")
plt.plot ([-10,-12],[127,115.6],color="black")
```

```
x=np.linspace(-17,17,1000)
y=np.linspace(-69,115.593,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-0)**2+(y-120)**2,[163.45],color="black")
x=np.linspace(-20,0,1000)
y=np.linspace(17,20,1000)
 x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x+20)**2/400+(y-20)**2/9,[1],color="black")|\\
x=np.linspace(0,20,1000)
y=np.linspace(17,20,1000)
x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x-20)**2/400+(y-20)**2/9,[1],color="black")|\\
x=np.linspace(-19.079,-12,1000)
y=np.linspace(45,56,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+0)**2/364+(y-45)**2/200,[1],color="black")
x=np.linspace(12,19.079,1000)
y=np.linspace(45,56,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour" (x,y,(x+0)**2/364+(y-45)**2/200,[1],color="black")
plt.plot ([-12.544, -16.95], [115.585, 65.994], color="black")
plt.plot ([16.94,12],[66.095,115.305],color="black")
x=np.linspace(13.544,0,1000)
y=np.linspace(100.135,53.932,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,4500*(x+3)**2+300*(y-120)**2,[1350000],color="black")
x=np.linspace(-13.544,0,1000)
y=np.linspace(100.135,53.932,1000)
 x,y=np.meshgrid(x,y)
\verb|plt.contour(x,y,4500*(x-3)**2+300*(y-120)**2,[1350000],color="black")|
plt.plot ([0,0],[105,53.932],color="black")
plt.plot ([12,16.9],[56,65.8],color="black")
plt.plot ([0,12],[50,56],color="black")
plt.plot ([0,-11.995],[50,55.998],color="black")
plt.plot ([-19.079,19.079],[45,45],color="black")
plt.plot ([-19.448,19.448],[35,35],color="black")
plt.plot ([-12,-16.8],[56,65.6],color="black")
plt.plot ([12,10],[115.593,127],color="black")
x=np.linspace(-15,-18.6,1000)
y=np.linspace(-68.234,-55.7,1000)
\texttt{x,y=np.meshgrid}(\texttt{x,y})
\verb"plt.contour" (x,y,500" (x+0)" *2+346.3" (y+55)" *2,[173150], \verb"color="black")"
x=np.linspace(15,18.6,1000)
y=np.linspace(-68.234,-55.7,1000)
 x, y=np.meshgrid(x, y)
\verb"plt.contour" (x,y,500" (x+0)" *2+346.3" (y+55)" *2,[173150], \verb"color="black")"
# Abdomen
plt.plot([10,10],[-73.75,-84.103],color="black")
plt.plot([-10,-10],[-73.75,-84.103],color="black")
plt.plot([10,11],[-73.75,-83.75],color="black")
plt.plot([-10,-11],[-73.75,-83.75],color="black")
plt.plot([14,18],[-33,-41],color="black")
plt.plot([-14,-18],[-33,-41],color="black")
plt.plot([10,19.449], [-28.667, -35.1],color="black")
plt.plot([-10,-19.449], [-28.667, -35.1],color="black")
plt.plot([-19,-15], [-22.5, -20.5],color="black")
plt.plot([19,15], [-22.5, -20.5],color="black")
plt.plot([-19,-15],[-10.8,-10],color="black")
\verb"plt.plot([19,15],[-10.8,-10],color="black")"
plt.plot([-10,10],[-40,-40],color="black")
plt.plot([-10,-15],[-40,-42.5],color="black")
plt.plot([10,15],[-40,-42.5],color="black")
plt.plot([12,18],[-49.4,-50.6],color="black")
plt.plot([-12,-18],[-49.4,-50.6],color="black")
x=np.linspace(-14.892,-11,1000)
y=np.linspace(-82,-83.751,1000)
 \begin{array}{l} x,y = np.meshgrid(x,y) \\ plt.contour(x,y,x^{**}2 + (y+54.1035)^{**}2, [1000], colors = ["k"]) \end{array} 
x=np.linspace(14.892,11,1000)
y=np.linspace(-82,-83.751,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2+(y+54.1035)**2,[1000],colors=["k"])
```

```
x=np.linspace(-10,10,1000)
y=np.linspace(-84,-85.726,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2+(y+54.1035)**2,[1000],colors=["k"])
x=np.linspace(-15,-16.5,1000)
y=np.linspace(-68.234,-82,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,x**2+(y+75)**2,[270.78],colors=["k"])
x=np.linspace(15,16.5,1000)
y=np.linspace(-68.234,-82,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,x**2+(y+75)**2,[270.78],colors=["k"])
x=np.linspace(-19.994,19.994,1000)
y=np.linspace(-61.148,-0.052,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2+(y+63)**2,[3906],colors=["k"])
plt.contour(x,y,x**2+(y+49)**2,[2000],colors=["k"])
plt.contour(x,y,x**2+(y+48)**2,[1250],colors=["k"])
plt.contour(x,y,x^{**}2+(y+55)^{**}2,[1000],colors=["k"])\\
plt.contour(x,y,x^{**}2+(y+96)^{**}2,[2000],colors=["k"])\\
plt.contour(x,y,x**2+(y+115)**2,[3000],colors=["k"])
x=np.linspace(-17.361,-13,1000)
y=np.linspace(-63.052,-61.8,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2+(y+115)**2,[3000],colors=["k"])
x=np.linspace(17.361,13,1000)
y=np.linspace(-63.052,-61.8,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2+(y+115)**2,[3000],colors=["k"])
x=np.linspace(-18.61,-15,1000)
y=np.linspace(-55.709,-68.234,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,x**2/346.3+(y+55)**2/500,[1],colors=["k"])
x=np.linspace(18.61,15,1000)
y=np.linspace(-55.709,-68.234,1000)
 x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,x**2/346.3+(y+55)**2/500,[1],colors=["k"])
x=np.linspace(-20,20,1000)
y=np.linspace(-54.944,150,1000)
x,y=np.meshgrid(x,y) plt.contour(x,y,x**2/20**2+y**2/150**2,[1],colors=["k"])
# Left Wing
plt.plot([-58,-58],[95.076,150.937],"r")
plt.plot([-30.624,-41.246],[124.128,92.262],"r")
x = np.linspace(-58, -30.623, 1000)
y = np.linspace(150.937, 124.126, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 50000*(x+300)**2 + 100000*(y - 7)**2, [5000000000], color = "r")
 x = np.linspace(-58, -41.3, 1000)
y = np.linspace(95.076, 92.269, 1000)
y = np. tanbec(33.07) 32.123, 1003

x, y = np. meshgrid(x, y)

plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")

plt.plot([-60,-60],[93.442,155.6],"orange")

plt.plot([-28.465,-39.978],[124.605,90.066],"orange")
 x = np.linspace(-60, -28.465, 1000)
 y = np.linspace(155.6, 124.605, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 10)**2,[5000000000],color = "orange") x = \text{np.linspace}(-60, -40, 1000)
y = np.linspace(93.442, 90.069, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 240)**2,[3000000000],color = "orange")
#左右2方格
plt.plot([-106,-106],[183.5,105.9],"r")
plt.plot([-82,-82],[168.9,100],"r")
x = np.linspace(-82, -106, 1000)
y = np.linspace(100, 105.814, 1000)
   y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 25000^*(\texttt{x} - 70)^{**}2 + 120000^*(\texttt{y} - 242)^{**}2, [3000000000], \texttt{color} = "r")
x = np.linspace(-106, -82, 1000)
y = np.linspace(183.584, 168.981, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 7)**2,[5000000000],color = "r")
plt.plot([-108,-108],[187.674,104.4],"orange")
plt.plot([-80,-80],[170.6,97.5],"orange")
x = np.linspace(-108, -80, 1000)
y = np.linspace(104.356,97.478, 1000)
```

```
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, 25000^*(x-70)^{**2} \ + \ 120000^*(y \ - \ 240)^{**2}, [3000000000], \texttt{color} \ = \ "\texttt{orange"})
x = np.linspace(-108, -80, 1000)
y = np.linspace(187.674, 170.624, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 10)**2,[5000000000],color = "orange")
plt.plot([-141.85,-154.505],[116.95,205.534],"r")
plt.plot([-127,-127],[111.943,194.1],"r")
x = np.linspace(-154.505 , -127 , 1000)
y = np.linspace(205.543 , 194.1 , 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 50000*(x+300)**2 + 100000*(y - 7)**2, [5000000000], color = "r")
x = np.linspace(-127, -141.85, 1000)
y = np.linspace(111.943 , 116.95 , 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
plt.plot([-143.7,-157.066],[115.9,209.462],"orange")
plt.plot([-125, -125], [109.6, 196.2], "orange")
 x = np.linspace(-157.066 , -125, 1000)
y = np.linspace(209.462, 196.246, 1000)
x, y = np.meshgrid(x, y)
{\tt plt.contour}({\tt x,\ y,50000^*(x+300)^{**}2\ +\ 100000^*(y\ -\ 10)^{**}2,[5000000000],color\ =\ "orange")}
x = np.linspace(-143.4 , -125 , 1000)
y = np.linspace(115.45 , 109.31 , 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 240)**2,[3000000000],color = "orange")
#左右4方格
plt.plot([-187,-187],[215.84,135.982],"r")
plt.plot([-160,-173],[124,211.769],"r")
x = np.linspace(-173, -187, 1000)
y = np.linspace(211.769, 215.84, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x} + 300)^{**}2 + 100000^*(\texttt{y - 7})^{**}2, \texttt{[5000000000]}, \texttt{color} = \texttt{"r"})
x = np.linspace(-187, -160.4, 1000)
y = np.linspace(136,124, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
plt.plot([-189,-189],[219.3,135],"orange")
plt.plot([-158,-171.3],[121,214],"orange")
x = np.linspace(-189, -171.3, 1000)
y = np.linspace(219.3, 214, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 10)**2,[5000000000],color = "orange")
x = np.linspace(-189, -158, 1000)
y = np.linspace(135, 121, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 240)**2,[300000000],color = "orange")
#左右5方格
plt.plot([-229,-229],[224.898,162.2],"r")
plt.plot([-206,-206],[220.5,146.45],"r")
 x = np.linspace(-229, 206, 1000)
y = np.linspace(224.898, 220.5, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 7)**2,[5000000000],color = "r")
x = np.linspace( -229, -206 , 1000)
y = np.linspace( 162.2, 146.45, 1000)
 x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
plt.plot([-231,-231],[228.219,161.739],"orange")
plt.plot([-204,-204],[223,143.3],"orange")
x = np.linspace(-231, -204, 1000)
y = np.linspace(228.219,223, 1000)
  y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x} + 300)^{**}2 \texttt{ + } 100000^*(\texttt{y - } 10)^{**}2, \texttt{[} 5000000000], \texttt{color} \texttt{ = "orange")}
x = np.linspace(-231, -204, 1000)
y = np.linspace(161.739, 143.3, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, 25000^*(x-70)^{**2} \ + \ 120000^*(y \ - \ 240)^{**2}, [3000000000], \texttt{color} \ = \ "\texttt{orange"})
plt.plot([-271,-271],[229.65,214.165],"r")
plt.plot([-247,-247],[227.444,178.244],"r")
x = np.linspace(-271,-247, 1000)
y = np.linspace( 229.65, 227.444, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 7)**2,[5000000000],color = "r")
 x = np.linspace( -271, -247 , 1000)
y = np.linspace( 214.165, 178.244, 1000)
x, y = np.meshgrid(x, y)    plt.contour(x, y,25000*(x-70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
```

```
plt.plot([-273,-273],[232.79,217.9],"orange")
plt.plot([-245,-245],[230.199,174.212],"orange")
x = np.linspace(-273, -245, 1000)
y = np.linspace(232.79, 230.199, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 10)**2,[5000000000],color = "orange")
x = np.linspace(-273, -245, 1000)
y = np.linspace(217.869, 174.212, 1000)
x, y = np.meshgrid(x, y)
{\tt plt.contour(x, y,25000^*(x-70)^{**}2 + 120000^*(y - 240)^{**}2,[3000000000],color = "orange")}
x = np.linspace(-300, -375, 1000)
y = np.linspace(246.807, 240.427, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 23.2)**2,[5000000000],color = "k")
x = np.linspace(-300, -12.602, 1000)
y = np.linspace(246.807, 116.48, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y - 23.2)**2,[5000000000],color = "k")
x = np.linspace(-300, -13.621, 1000)
y = np.linspace(238.607, 109.834, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x+300)**2 + 100000*(y -15)**2,[5000000000],color = "blue")
x = np.linspace(-347.638, -300, 1000)
y = np.linspace(236.059, 238.607, 1000)
x, y = np.meshgrid(x, y)
\verb|plt.contour(x, y, 50000*(x+300)**2 + 100000*(y -15)**2, [5000000000], color = "blue")|
#下1黑
x = np.linspace(-285.717, -17.4, 1000)
y = np.linspace(220, 75.883, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, 25000^*(x-60)^{**}2 \ + \ 120000^*(y \ -230)^{**}2, [3000000000], \texttt{color} \ = \ "k")
x = np.linspace(-374.998, -400, 1000)
y = np.linspace(240.427, 228.138, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+360)**2/2892 + (y -200)**2/1772.2, [1], color = "k")
x = np.linspace(-400, -413.777, 1000)
y = np.linspace(228.138, 200, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+360)**2/2892 + (y -200)**2/1772.2,[1],color = "k")
x = np.linspace(-413.777, -380.053, 1000)
y = np.linspace(200, 153.146, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+360)**2/3000 + (y -212)**2/4000,[1],color = "k")
x = np.linspace(-380.05, -369.525, 1000)
y = np.linspace(153.145, 144.443, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, (\texttt{x} + 382.65) * *2/175 \texttt{ + (y -143.17)} * *2/103.5, [\texttt{1}], \texttt{color} \texttt{ = "k"})
x = np.linspace(-369.525, -300, 1000)
y = np.linspace(144.443, 65, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+300)**2/115 + (y -197.25)**2/350,[50],color = "k")
#下黑線
plt.plot([-300,-120],[65,65],"k")
#下右黑線
plt.plot([-120,-50],[65,60],"k")
#下右右黑線
plt.plot([-18.33,-50],[60,60],"k")
plt.plot([-347.638,-320],[236.055,225],"b")
plt.plot([-350,-320],[213,225],"b")
plt.plot([-350,-315],[213,199],"b")
plt.plot([-345,-315],[187,199],"b")
```

```
plt.plot([-345,-295],[187,167],"b")
#藍6
plt.plot([-320,-295],[157,167],"b")
plt.plot([-320,-270],[157,137],"b")
#藍8
plt.plot([-305,-270],[123,137],"b")
plt.plot([-305,-265],[123,107],"b")
plt.plot([-300,-265],[93,107],"b")
#藍11
plt.plot([-300,-255],[93,75],"b")
#黑1
plt.plot([-320,-286],[225,220],"k")
#黑2
plt.plot([-315,-279.687],[199,199],"k")
plt.plot([-295,-263.389],[167,173.322],"k")
plt.plot([-270,-236.434],[137,148.189],"k")
plt.plot([-265,-197.024],[107,123.994],"k")
plt.plot([-255,-134.129],[74.915,99.047],"k")
x=np.linspace(-410,-293,1000)
y=np.linspace(73,232,1000)
 x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+385)**2/15+(y-225)**2/15,[1],colors=["k"])
plt.contour(x,y,(x+405)**2/25+(y-205)**2/25,[1],colors=["k"])
plt.contour(x,y,(x+375)**2/70+(y-205)**2/70,[1],colors=["k"])
plt.contour(x,y,(x+355)**2/45+(y-225)**2/45,[1],colors=["k"])
plt.contour(x,y,(x+360)**2/90+(y-185)**2/50,[1],colors=["k"])
\verb"plt.contour"(x,y,(x+395)**2/35+(y-185)**2/35,[1],colors=["k"])
plt.contour(x,y,(x+376)**2/30+(y-165)**2/30,[1],colors=["k"])
plt.contour(x,y,(x+345)**2/80+(y-165)**2/65,[1],colors=["k"])
plt.contour(x,y,(x+358)**2/30+(y-140)**2/30,[1],colors=["k"])
plt.contour(x,y,(x+335)**2/80+(y-140)**2/50,[1],colors=["k"])
plt.contour(x,y,(x+350)**2/28+(y-120)**2/28,[1],colors=["k"])
plt.contour(x,y,(x+325)**2/70+(y-120)**2/60,[1],colors=["k"])
\verb|plt.contour(x,y,(x+338)**2/20+(y-100)**2/20,[1],colors=["k"]||
plt.contour(x,y,(x+312)**2/65+(y-100)**2/55,[1],colors=["k"])
plt.contour(x,y,(x+320)**2/15+(y-80)**2/15,[1],colors=["k"])
plt.contour(x,y,(x+300)**2/45+(y-80)**2/45,[1],colors=["k"])
x=np.linspace(-108,-85,1000)
y=np.linspace(-105,-235,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+97)**2/68+(y+115)**2/45,[1],colors=["b"])
plt.contour(x,y,(x+101)**2+(y+126.5)**2,[18],colors=["b"])
plt.contour(x,y,(x+102)**2+(y+136)**2,[12],colors=["b"])
plt.contour(x,y,(x+102.1)**2+(y+144.5)**2,[8],colors=["b"])
plt.contour(x,y,(x+102.2)**2+(y+145.8)**2,[8],colors=["b"])
plt.contour(x,y,(x+102.2)**2+(y+160.8)**2,[8],colors=["b"])
plt.contour(x,y,(x+102.2)**2+(y+169)**2,[8],colors=["b"])
ptt.contour(x,y,(x+102.3)**2+(y+177)**2,[8],colors=["b"])
ptt.contour(x,y,(x+102.4)**2+(y+185.2)**2,[8],colors=["b"])
ptt.contour(x,y,(x+102.5)**2+(y+193)**2,[9],colors=["b"])
ptt.contour(x,y,(x+102.7)**2+(y+200.8)**2,[10],colors=["b"])
ptt.contour(x,y,(x+102.7)**2+(y+200.8)**2,[10],colors=["b"])
plt.contour(x, y, (x+103.2)**2+(y+218)**2, [15], colors=["b"])
plt.contour(x,y,(x+103.5)**2/18+(y+228)**2/18,[1],colors=["b"])
x=np.linspace(-225,-43,1000)
y=np.linspace(-25,-130,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+51)**2/35+(y+118)**2/57,[1],colors=["b"])
plt.contour(x,y,(x+68)**2/400+(y+94)**2/230,[1],colors=["r"])
\verb|plt.contour(x,y,(x+68)**2/500+(y+94)**2/300,[1],colors=["orange"]||
 x=np.linspace(-225,-43,1000)
y=np.linspace(-77,-85,1000)
x,y=np.meshgrid(x,y)
\verb|plt.contour(x,y,(x+137)**2/55+(y+85)**2/55,[1],colors=["orange"])|\\
```

```
x=np.linspace(-225,-43,1000)
y=np.linspace(-79,-83,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+137)**2/30+(y+85)**2/30,[1],colors=["r"])
x=np.linspace(-225,-43,1000)
y=np.linspace(-52,-60,1000)
x,y=np.meshgrid(x,y)
\verb|plt.contour(x,y,(x+177)**2/55+(y+60)**2/55,[1],colors=["orange"])|\\
x=np.linspace(-225,-43,1000)
y=np.linspace(-54,-58,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+177)**2/30+(y+60)**2/30,[1],colors=["r"]) x=np.linspace(-225,-43,1000)
y=np.linspace(-27,-35,1000)
x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x+217)**2/55+(y+35)**2/55,[1],colors=["orange"])|\\
x=np.linspace(-225,-43,1000)
y=np.linspace(-29,-33,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+217)**2/30+(y+35)**2/30,[1],colors=["r"])
x=np.linspace(-98.4,-112,1000)
y=np.linspace(-240,-248,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+105)**2/43+(y+239)**2/80,[1],colors=["b"])
plt.plot([-98.484,-98.484],[-234.294,-240],color="b")
x=np.linspace(-110,-111.507,1000)
y=np.linspace(-234.294,-240.108,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+104.95)**2/43+(y+240)**2/80,[1],colors=["b"])
plt.plot([-109.98,-98.484],[-234.294,-234.294],color="b")
plt.plot([-142.08,-131.92],[-83,-83],color="r")
plt.plot([-144.417, -129.584],[-85, -85],color="orange")
plt.plot([-182.073,-171.94],[-58,-58],color="r")
plt.plot([-184.4,-169.61],[-60,-60],color="orange")
plt.plot([-222.07,-211.91],[-33,-33],color="r")
plt.plot([-224.41, -209.59], [-35, -35], color="orange")
x = np.linspace(-254.787, -180, 1000)
y = np.linspace(74.915, 79.142, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+180)**2/11000 + (y -65)**2/200, [1], color = "blue")
#下藍2
plt.plot([-180,-143.4],[79.07,79.07],"b")
#下藍3
x = np.linspace(-143.4, -81.243, 1000)
y = np.linspace(79.07, 72.116, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+144.48)**2/4000 + (y -72)**2/50, [1], color = "blue")
x = np.linspace(-18.212, -81.243, 1000)
y = np.linspace(62, 72.116, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+18)**2/4000 + (y -72)**2/100,[1],color = "blue")
#下半左1黑
x = np.linspace(-132.314, -218.758, 1000)
y = np.linspace(65, 0, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+100)**2/16401 + (y +41)**2/12000,[1],color = "k")
x = np.linspace(-218.758, -228.066, 1000)
y = np.linspace(0, -41.263, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+100)**2/16401 + (y +41)**2/12000,[1],color = "k")
#下半左2黑
x = np.linspace(-26.245, -193.086, 1000)
y = np.linspace(60, 1.428, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-30)**2/56215 + (y +30)**2/8583,[1],color = "k")
#下半左3黑
x = np.linspace(-24.966, -140.766, 1000)

y = np.linspace(60, -28.576, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-50)**2/37605 + (y +50)**2/14226,[1],color = "k")
x = np.linspace(-20.781, -79.5, 1000)
y = np.linspace(60, -49.401, 1000)
x, y = np.meshgrid(x, y)
```

```
plt.contour(x, y,(x+19.823)**2/3600 + (y +62.05)**2/14900,[1],color = "k")
#下半左5黑
x = np.linspace(-19.812, -31.597, 1000)

y = np.linspace(60, -68.008, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(-31.597, -31.62, 1000)
y = np.linspace(-68.008, -77.295, 1000)
x, y = np.meshgrid(x, y) plt.contour(x, y,(x-0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(-31.597, -31.62, 1000)
y = np.linspace(-68.008, -72.705, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-0)**2/1000 + (y +75)**2/30000, [1], color = "k")
x = np.linspace(-31.62, -31.65, 1000)
y = np.linspace(-72.705, -77.295, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(-31.62, -31.61, 1000)
y = np.linspace(-72.705, -79.923, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-0)**2/1000 + (y +75)**2/30000, [1], color = "k")
x = np.linspace(-31.61, -31.292, 1000)
y = np.linspace(-79.923, -99.999, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-0)**2/1000 + (y +75)**2/30000,[1],color = "k")
#下半左6黑
x = np.linspace(-79.5, -84.95, 1000)
y = np.linspace(-50, -73.876, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+88)**2/71.75 + (y +50)**2/655,[1],color = "k")
#下半部右蓋
x = np.linspace(-31.6, -40, 1000)
y = np.linspace(-78.556, -70.093, 1000)
x, y = np.meshgrid(x, y) 
 plt.contour(x, y,(x+60)**2/900 + (y +85)**2/400,[1],color = "k")
x = np.linspace(-40, -60, 1000)
y = np.linspace(-70.093, -65, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+60)**2/900 + (y +85)**2/400,[1],color = "k")
x = np.linspace(-60, -80, 1000)
y = np.linspace(-65, -70.093, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+60)**2/900 + (y +85)**2/400, [1], color = "k")
x = np.linspace(-80, -85, 1000)
y = np.linspace(-70.093, -73.945, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+60)**2/900 + (y +85)**2/400,[1],color = "k")
#下半部右2蓋
x = np.linspace(-84.976, -81.54, 1000)
y = np.linspace(-73.92,-60.296, 1000)
  y = np.meshgrid(x, y)
plt.contour(x, y, (x+97.35)**2/250 + (y +60)**2/500, [1], color = "k")
x = np.linspace(-81.54, -81.54, 1000)
y = np.linspace(-59.704,-60.296, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+97.35)**2/250 + (y +60)**2/500, [1], color = "k")
x = np.linspace(-81.54, -97.35, 1000)
y = np.linspace(-59.704,-37.639, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+97.35)**2/250 + (y +60)**2/500,[1],color = "k")
x = np.linspace(-81.54, -97.35, 1000)
y = np.linspace(-59.704, -37.639, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+97.35)**2/250 + (y +60)**2/500,[1],color = "k")
x = np.linspace(-104.4, -97.35, 1000)
y = np.linspace(-39.985, -37.639, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+97.35)**2/250 + (y +60)**2/500,[1],color = "k")
#下半部右3蓋
x = np.linspace(-104.44, -116.75, 1000)
y = np.linspace(-40.012,-42.472, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+116.75)**2/190 + (y +38)**2/20,[1],color = "k")
#下半部右4蓋
x = np.linspace(-116.75, -128.956, 1000)
y = np.linspace(-42.472, -29.493, 1000)
  y = np.meshgrid(x, y)
plt.contour(x, y,(x+116.75)**2/150 + (y +28.33)**2/200,[1],color = "k")
#下半部右5蓋
```

```
x = np.linspace(-128.97, -135, 1000)
y = np.linspace(-29.412, -25.528, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+135)**2/37 + (y +30)**2/20,[1],color = "k")
x = np.linspace(-140.766, -135, 1000)
y = np.linspace(-28.576,-25.528, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+135)**2/37 + (y +30)**2/20,[1],color = "k")
#下半部左蓋
x = np.linspace(-197.78, -187.68, 1000)
y = np.linspace(29.744, 14.133, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+205)**2/300 + (y -14)**2/300,[1],color = "k")
x = np.linspace(-187.68, -187.68, 1000)
y = np.linspace(14.133, 13.867, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+205)**2/300 + (y -14)**2/300,[1],color = "k")
x = np.linspace(-187.68, -193.086, 1000)
y = np.linspace(13.867, 1.428, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+205)**2/300 + (y -14)**2/300, [1], color = "k")
#下半部左2蓋
x = np.linspace(-193.086, -188, 1000)
y = np.linspace(1.428, 2.247, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+188)**2/200 + (y +10)**2/150,[1],color = "k")
x = np.linspace(-188, -179.835, 1000)
y = np.linspace(2.247,0, 1000)
x, y = np.meshgrid(x, y)
x = np.linspace(-179.835, -173.858, 1000)
y = np.linspace(0, -10.049, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+188)**2/200 + (y +10)**2/150, [1], color = "k")
#下半部左3蓋
x = np.linspace(-173.858, -170, 1000)

y = np.linspace(-10.049, -9.127, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+170)**2/35.5 + (y +13)**2/15,[1],color = "k")
x = np.linspace(-170, -164.042, 1000)
y = np.linspace(-9.127, -12.969, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+170)**2/35.5 + (y +13)**2/15,[1],color = "k")
x = np.linspace(-164.042, -164.042, 1000)
y = np.linspace(-13.031,-12.969, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+170)**2/35.5 + (y +13)**2/15, [1], color = "k")
x = np.linspace(-164.042, -164.242, 1000)
y = np.linspace(-13.031,-14, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+170)**2/35.5 + (y +13)**2/15,[1],color = "k")
#下半部左4蓋
x = np.linspace(-164.243, -167.071, 1000)
y = np.linspace(-14, -17.978, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+160)**2/50 + (y +18)**2/25,[1],color = "k")
x = np.linspace(-167.071, -167.071, 1000)
y = np.linspace(-18.022,-17.978, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+160)**2/50 + (y +18)**2/25, [1], color = "k")
x = np.linspace(-167.071, -160, 1000)
y = np.linspace(-18.022,-23, 1000)
x, y = np.meshqrid(x, y)
plt.contour(x, y,(x+160)**2/50 + (y +18)**2/25,[1],color = "k")
#下半部左5蓋
plt.plot([-160,-155],[-23,-23],"k")
#下半部左6蓋
x = np.linspace(-155, -149.473, 1000)
y = np.linspace(-23, -27.908, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+155)**2/30.558 + (y +28)**2/25, [1], color = "k")
#下半部左7蓋
x = np.linspace(-149.47, -145, 1000)
y = np.linspace(-28.185,-33.972, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+145)**2/20 + (y +28)**2/35.666,[1],color = "k")
#下半部左8蓋
x = np.linspace(-145, -141.036, 1000)
y = np.linspace(-33.972, -29.547, 1000)
```

```
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+145)**2/15.715 + (y +29.5)**2/20, [1], color = "k")
x = np.linspace(-141.036, -141.036, 1000)
y = np.linspace(-29.453, -29.547, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+145)**2/15.715 + (y +29.5)**2/20,[1],color = "k")
x=np.linspace(-217,-192.94,1000)
y=np.linspace(2.354,-23.088,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+216.95)**2/450+(y+20)**2/500,[1],colors=["k"]")
x=np.linspace(-195.94,-179.94,1000)
y=np.linspace(-18,-28.609,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+188.6)**2/75+(y+28.686)**2/100,[1],colors=["k"])
x=np.linspace(-179.94,-165,1000)
y=np.linspace(-20.609,-37.769,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+175)**2/100+(y+37.769)**2/110,[1],colors=["k"])
x=np.linspace(-136.8,-165.3,1000)
y=np.linspace(-48.2,-35,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+161)**2/50+(y+43.6)**2/50,[1],colors=["k"])
x=np.linspace(-155.998,-132,1000)
y=np.linspace(-28.598,-58.738,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+146.14)**2/200+(y+58.738)**2/200,[1],colors=["k"])
x=np.linspace(-131.988,-104,1000)
y=np.linspace(-28.733,-69.411,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+122.97)**2/100+(y+64)**2/150,[1],colors=["k"])"
x=np.linspace(-113.988,-80,1000)
y=np.linspace(-28.733,-90.411,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+103.61)**2/150+(y+80)**2/400,[1],colors=["k"])
x=np.linspace(-92.574,-43.1,1000)
y=np.linspace(-74,-89.704,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+68)**2/650+(y+94)**2/400,[1],colors=["k"])
x=np.linspace(-43.3,-42.4,1000)
y=np.linspace(-89.5,-94,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+68)**2/650+(y+94)**2/400,[1],colors=["k"])
x=np.linspace(-38.792,-42.5,1000)
y=np.linspace(-98.728,-94.213,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+37)**2/30.305+(y+94)**2/25,[1],colors=["k"])
x=np.linspace(-31.3,-43.6,1000)
y=np.linspace(-97,-119.927,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour" (x,y,(x+35.763)**2/60+(y+110)**2/150,[1],colors=["k"]")
x=np.linspace(-40.2,-58,1000)
y=np.linspace(-120,-129,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+50)**2/95.3525+(y+120)**2/70,[1],colors=["k"])
x=np.linspace(-97.35,-58,1000)
y=np.linspace(-139.953,-116,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+75)**2/500+(y+140.7098)**2/600,[1],colors=["k"])
plt.plot([-97.351,-97.351],[-139.989,-240],"k")
x=np.linspace(-112.7,-97.35,1000)
y=np.linspace(-249,-240,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+105)**2/58.51+(y+240)**2/80,[1],colors=["k"])
x=np.linspace(-112,-112.7,1000)
y=np.linspace(-236.413,-243.606,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+105)**2/58.51+(y+240)**2/80,[1],colors=["k"])
x=np.linspace(-112.007,-106)
y=np.linspace(-236.413,-115.085,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y, (x+113.92)**2/50+(y+160)**2/6300,[1],colors=["k"])
x=np.linspace(-108.1,-118.077,1000)
y=np.linspace(-108,-114.795,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour" (x, y, (x+113.08)**2/25+(y+115)**2/40, [1], \verb"colors=["k"]")
x=np.linspace(-118.077,-130,1000)
y=np.linspace(-114.795,-92,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+125.823)**2/60+(y+115)**2/500,[1],colors=["k"])"
x=np.linspace(-228.066,-218.02,1000)
y=np.linspace(-41.263,-50.487,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+218.02)**2/101+(y+41)**2/90,[1],colors=["k"]")
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```
x=np.linspace(-226.046,-209.995,1000)
y=np.linspace(-46.71,-50.5,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+218.02)**2/101+(y+41)**2/90,[1],colors=["k"]")
x=np.linspace(-210.2,-188,1000)
y=np.linspace(-42.1,-64.6,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+205.79)**2/60+(y+65.49)**2/500,[1],colors=["k"])
x=np.linspace(-198.3,-187,1000)
y=np.linspace(-66,-55.5,1000)
\texttt{x,y=np.meshgrid}(\texttt{x,y})
plt.contour(x,y,(x+193.049)**2/25+(y+65.49)**2/40,[1],colors=["k"]) x=np.linspace(-188,-169.663,1000)
y=np.linspace(-75,-65,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+178)**2/101+(y+65.49)**2/90,[1],colors=["k"])
x=np.linspace(-169.663,-157.964,1000)
y=np.linspace(-67,-88.866,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y, (x+165.7)**2/60+(y+90)**2/500,[1],colors=["k"])
x=np.linspace(-157.964,-148,1000)
y=np.linspace(-83,-91,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+153.045)**2/25+(y+90)**2/40,[1],colors=["k"])
x=np.linspace(-130,-148.9,1000)
y=np.linspace(-99.887,-90,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+138)**2/101+(y+90.4)**2/90,[1],colors=["k"])
#下半部藍曲
x=np.linspace(-221.34,-200.12,1000)
y=np.linspace(-6.639,-32.484,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+221.34)**2/450+(y+29)**2/500,[1],colors=["b"])
x=np.linspace(-184,-200.386,1000)
y=np.linspace(-27.686,-37.609,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+192.99)**2/75+(y+37.686)**2/100,[1],colors=["b"])
x=np.linspace(-184.3,-169.39,1000)
y=np.linspace(-36.281,-46.769,1000)
x,y=np.meshgrid(x,y)
\verb|plt.contour(x,y,(x+179.39)**2/100+(y+46.769)**2/110,[1],colors=["b"]||
x=np.linspace(-158,-169.39,1000)
y=np.linspace(-57.58,-45.5,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+165.39)**2/50+(y+52.6)**2/50,[1],colors=["b"])
x=np.linspace(-160.388,-135,1000)
y=np.linspace(-53.5,-68,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+150.53)**2/200+(y+67.738)**2/200,[1],colors=["b"])
x=np.linspace(-136.36,-117.3,1000)
y=np.linspace(-60,-78.051,1000)
\texttt{x}, \texttt{y=np.meshgrid}(\texttt{x}, \texttt{y})
plt.contour(x,y,(x+127.36)**2/100+(y+73)**2/150,[1],colors=["b"])
x=np.linspace(-118.23,-95,1000)
y=np.linspace(-70,-95.964,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+108)**2/160+(y+89)**2/350,[1],colors=["b"])
plt.plot([-96.26,-107.07],[-95.964,-109.986],"b")
#下下半部藍曲1
x=np.linspace(-107.08,-117.077,1000)
y=np.linspace(-110,-103,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+112.08)**2/25+(y+110)**2/40,[1],colors=["b"])
#下下半部藍曲2
x=np.linspace(-129,-117.077,1000)
y=np.linspace(-87,-109.795,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x+124.823)**2/60+(y+110)**2/500,[1],colors=["b"])
#下下半部藍曲3
x=np.linspace(-129,-145.046,1000)
y=np.linspace(-91.142,-95,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+137)**2/101+(y+85.4)**2/90,[1],colors=["b"])
#下下半部藍曲3
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```
x=np.linspace(-139,-147.042,1000)
y=np.linspace(-94.697,-85.024,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x+137)**2/101+(y+85.4)**2/90,[1],colors=["b"])
#下下半部藍曲4
x=np.linspace(-147,-156.964,1000)
y=np.linspace(-86,-78,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+152.045)**2/25+(y+85)**2/40,[1],colors=["b"])
#下下半部藍曲6
x=np.linspace(-156,-168.663,1000)
y=np.linspace(-83.866,-62,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x+164.7)**2/60+(y+85)**2/500,[1],colors=["b"])
#下下半部藍曲7
x=np.linspace(-168.663,-186,1000)
y=np.linspace(-62,-70,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+177)**2/101+(y+60.49)**2/90,[1],colors=["b"])
#下下半部藍曲8
x=np.linspace(-197.045,-187,1000)
y=np.linspace(-60,-54,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+192.049)**2/25+(y+60.49)**2/40,[1],colors=["b"])
#下下半部藍曲9
x=np.linspace(-197.045,-208.995,1000)
y=np.linspace(-60,-38,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+204.79)**2/60+(y+60.49)**2/500,[1],colors=["b"])
#下下半部藍曲10
x=np.linspace(-208.995,-225.046,1000)
y=np.linspace(-41.71,-46,1000)
\texttt{x,y=np.meshgrid}(\texttt{x,y})
plt.contour(x,y,(x+217.02)**2/101+(y+36)**2/90,[1],colors=["b"])
#下下半部藍曲11
x=np.linspace(-227.8,-217.02,1000)
y=np.linspace(-36,-45.487,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x+217.02)**2/101+(y+36)**2/90,[1],colors=["b"])
# Right Wing
plt.plot([58,58],[95.076,150.937],"r")
plt.plot([30.624,41.246],[124.128,92.262],"r")
x = np.linspace(58, 30.623, 1000)
y = np.linspace(150.937, 124.126, 1000)
x = np.linspace(58, 41.3, 1000)
y = np.linspace(95.076, 92.269, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 25000*(\texttt{x}+70)**2 + 120000*(\texttt{y - 242})**2, [300000000], \texttt{color} = "r")
plt.plot([60,60],[93.442,155.6],"orange")
plt.plot([28.465, 39.978], [124.605, 90.066], "orange")
x = np.linspace(60, 28.465, 1000)
y = np.linspace(155.6, 124.605, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x}-300)^{**}2 \texttt{ + } 100000^*(\texttt{y - } 10)^{**}2, [5000000000], \texttt{color} \texttt{ = "orange"})
x = np.linspace(60, 40, 1000)
y = np.linspace(93.442, 90.069, 1000)
x, y = np.meshgrid(x, y) plt.contour(x, y,25000*(x+70)**2 + 120000*(y - 240)**2,[300000000],color = "orange")
plt.plot([106,106],[183.5,105.9],"r")
plt.plot([82,82],[168.9,100],"r")
x = np.linspace(82, 106, 1000)
y = np.linspace(100, 105.814, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x+70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
x = np.linspace(106, 82, 1000)
y = np.linspace(183.584, 168.981, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x-300)**2 + 100000*(y - 7)**2,[5000000000],color = "r")
plt.plot([108,108],[187.674,104.4],"orange")
plt.plot([80,80],[170.6,97.5],"orange")
x = np.linspace(108, 80, 1000)
y = np.linspace(104.356,97.478, 1000)
x, y = np.meshgrid(x, y)
\verb|plt.contour|(x, y, 25000*(x+70)**2 + 120000*(y - 240)**2, [3000000000], color = "orange")|
x = np.linspace(108, 80, 1000)
```

```
y = np.linspace(187.674, 170.624, 1000)
   y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x}-300)^{**}2 \texttt{ + } 100000^*(\texttt{y - } 10)^{**}2, [5000000000], \texttt{color} \texttt{ = "orange"})
#左右3方格
plt.plot([141.85,154.505],[116.95,205.534],"r")
plt.plot([127,127],[111.943,194.1],"r")
x = np.linspace(154.505 , 127 , 1000)
y = np.linspace(205.543 , 194.1 , 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x} - 300)^{**}2 + 100000^*(\texttt{y} - 7)^{**}2, \texttt{[5000000000]}, \texttt{color} = "r")
x = np.linspace(127 , 141.85 , 1000)
y = np.linspace(111.943 , 116.95 , 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 25000*(\texttt{x}+70)**2 + 120000*(\texttt{y} - 242)**2, [3000000000], \texttt{color} = "r")
plt.plot([143.7,157.066],[115.9,209.462],"orange")
plt.plot([125,125],[109.6,196.2],"orange")
x = np.linspace(157.066 , 125, 1000)
y = np.linspace(209.462 , 196.246, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 50000*(x-300)**2 + 100000*(y - 10)**2, [5000000000], color = "orange")
x = np.linspace(143.4 , 125 , 1000)
y = np.linspace(115.45 , 109.31 , 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x+70)**2 + 120000*(y - 240)**2,[3000000000],color = "orange")
plt.plot([187,187],[215.84,135.982],"r")
plt.plot([160,173],[124,211.769],"r")
x = np.linspace(173, 187, 1000)
y = np.linspace(211.769, 215.84, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 50000*(x-300)**2 + 100000*(y - 7)**2, [5000000000], color = "r")
x = np.linspace( 187, 160.4 , 1000)
y = np.linspace( 136,124 , 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 25000*(\texttt{x}+70)**2 + 120000*(\texttt{y - 242})**2, [3000000000], \texttt{color} = "r")
plt.plot([189,189],[219.3,135],"orange")
plt.plot([158,171.3],[121,214],"orange")
x = np.linspace(189, 171.3, 1000)
y = np.linspace(219.3,214, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x}-300)^{**2} + 100000^*(\texttt{y} - 10)^{**2}, [5000000000], \texttt{color} = "\texttt{orange}")
x = np.linspace(189, 158, 1000)
y = np.linspace(135, 121, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, 25000^*(x+70)^{**2} \ + \ 120000^*(y \ - \ 240)^{**2}, [3000000000], \texttt{color} \ = \ "\texttt{orange"})
#左右5方格
plt.plot([229,229],[224.898,162.2],"r")
plt.plot([206,206],[220.5,146.45],"r")
x = np.linspace(229,-206, 1000)
y = np.linspace( 224.898,220.5 , 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 50000*(x-300)**2 + 100000*(y - 7)**2, [5000000000], color = "r")
x = np.linspace(229, 206, 1000)
y = np.linspace(162.2, 146.45, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x+70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
plt.plot([231,231],[228.219,161.739],"orange")
plt.plot([204,204],[223,143.3],"orange")
x = np.linspace(231, 204, 1000)
y = np.linspace(228.219, 223, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x-300)**2 + 100000*(y - 10)**2,[5000000000],color = "orange")
x = np.linspace(231, 204, 1000)
y = np.linspace(161.739,143.3, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, 25000*(x+70)**2 + 120000*(y - 240)**2, [3000000000], color = "orange")
#左右6方格
plt.plot([271,271],[229.65,214.165],"r")
plt.plot([247,247],[227.444,178.244],"r")
x = np.linspace(271, 247, 1000)
y = np.linspace( 229.65, 227.444, 1000)
x, y = np.meshgrid(x, y)
{\tt plt.contour}({\tt x,\ y,50000*(x-300)**2\ +\ 100000*(y\ -\ 7)**2,[5000000000],color\ =\ "r")}
x = np.linspace(271, 247, 1000)
y = np.linspace( 214.165, 178.244, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x+70)**2 + 120000*(y - 242)**2,[3000000000],color = "r")
plt.plot([273,273],[232.79,217.9],"orange")
plt.plot([245,245],[230.199,174.212],"orange")
```

```
x = np.linspace(273, 245, 1000)
y = np.linspace(232.79, 230.199, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, 50000^*(x-300)^{**2} \ + \ 100000^*(y \ - \ 10)^{**2}, [5000000000], \texttt{color} \ = \ "\texttt{orange"})
x = np.linspace(273, 245, 1000)
y = np.linspace(217.869, 174.212, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 25000^*(\texttt{x}+70)^**2 + 120000^*(\texttt{y} - 240)^**2, [3000000000], \texttt{color} = "orange")
#上1黑
x = np.linspace(300, 375, 1000)
y = np.linspace(246.807,240.427, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x-300)**2 + 100000*(y - 23.2)**2,[5000000000],color = "k")
x = np.linspace(300, 12.602, 1000)
y = np.linspace(246.807, 116.48, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x-300)**2 + 100000*(y - 23.2)**2,[5000000000],color = "k")
x = np.linspace(300, 13.621, 1000)
y = np.linspace(238.607, 109.834, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(\texttt{x}, \texttt{ y}, 50000^*(\texttt{x} - 300)^{**}2 + 100000^*(\texttt{y} - 15)^{**}2, \texttt{[50000000000]}, \texttt{color} = \texttt{"blue"})
x = np.linspace(347.638, 300, 1000)
y = np.linspace(236.059, 238.607, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,50000*(x-300)**2 + 100000*(y -15)**2,[5000000000],color = "blue")
x = np.linspace(285.717, 17.4, 1000)
y = np.linspace(220, 75.883, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,25000*(x+60)**2 + 120000*(y -230)**2,[3000000000],color = "k")
x = np.linspace(374.998, 400, 1000)
y = np.linspace(240.427, 228.138, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-360)**2/2892 + (y -200)**2/1772.2,[1],color = "k")
x = np.linspace(400, 413.777, 1000)
y = np.linspace(228.138, 200, 1000)
 x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-360)**2/2892 + (y -200)**2/1772.2,[1],color = "k")
#左2黑
x = np.linspace(413.777, 380.053, 1000)
y = np.linspace(200, 153.146, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-360)**2/3000 + (y -212)**2/4000, [1], color = "k")
#左3黑
x = np.linspace(380.05, 369.525, 1000)
y = np.linspace(153.145, 144.443, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-382.65)**2/175 + (y -143.17)**2/103.5, [1], color = "k")
x = np.linspace(369.525, 300, 1000)

y = np.linspace(144.443, 65, 1000)
x, y = np.meshqrid(x, y)
plt.contour(x, y,(x-300)**2/115 + (y -197.25)**2/350,[50],color = "k")
#下黑線
plt.plot([300,120],[65,65],"k")
#下右黑線
plt.plot([120,50],[65,60],"k")
#下右右黑線
plt.plot([18.33,50],[60,60],"k")
plt.plot([347.638,320],[236.055,225],"b")
plt.plot([350,320],[213,225],"b")
#藍3
plt.plot([350,315],[213,199],"b")
plt.plot([345,315],[187,199],"b")
#藍5
plt.plot([345,295],[187,167],"b")
```

```
#藍6
plt.plot([320,295],[157,167],"b")
#藍7
plt.plot([320,270],[157,137],"b")
plt.plot([305,270],[123,137],"b")
#藍9
plt.plot([305,265],[123,107],"b")
plt.plot([300,265],[93,107],"b")
plt.plot([300,255],[93,75],"b")
plt.plot([320,286],[225,220],"k")
#黑2
plt.plot([315,279.687],[199,199],"k")
#黑3
plt.plot([295,263.389],[167,173.322],"k")
plt.plot([270,236.434],[137,148.189],"k")
#里5
plt.plot([265,197.024],[107,123.994],"k")
plt.plot([255,134.129],[74.915,99.047],"k")
x=np.linspace(410,293,1000)
y=np.linspace(73,232,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-385)**2/15+(y-225)**2/15,[1],colors=["k"])
plt.contour(x,y,(x-405)**2/25+(y-205)**2/25,[1],colors=["k"])
plt.contour(x,y,(x-375)**2/70+(y-205)**2/70,[1],colors=["k"])
plt.contour(x,y,(x-355)**2/45+(y-225)**2/45,[1],colors=["k"])
plt.contour(x,y,(x-360)**2/90+(y-185)**2/50,[1],colors=["k"])
plt.contour(x,y,(x-395)**2/35+(y-185)**2/35,[1],colors=["k"])
plt.contour(x,y,(x-370)**2/30+(y-165)**2/30,[1],colors=["k"])
plt.contour(x,y,(x-345)**2/80+(y-165)**2/65,[1],colors=["k"])
\verb|plt.contour(x,y,(x-358)**2/30+(y-140)**2/30,[1],colors=["k"]||
plt.contour(x,y,(x-335)**2/80+(y-140)**2/50,[1],colors=["k"])
plt.contour(x,y,(x-350)**2/28+(y-120)**2/28,[1],colors=["k"])
plt.contour(x,y,(x-325)**2/70+(y-120)**2/60,[1],colors=["k"])
plt.contour(x,y,(x-338)**2/20+(y-100)**2/20,[1],colors=["k"])
plt.contour(x,y,(x-312)**2/65+(y-100)**2/55,[1],colors=["k"])
plt.contour(x,y,(x-320)**2/15+(y-80)**2/15,[1],colors=["k"])
\verb"plt.contour"(x,y,(x-300)**2/45+(y-80)**2/45,[1],colors=["k"])
x=np.linspace(108,85,1000)
y=np.linspace(-105,-235,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-97)**2/68+(y+115)**2/45,[1],colors=["b"])
plt.contour(x,y,(x-101)**2+(y+126.5)**2,[18],colors=["b"])
plt.contour(x,y,(x-102)**2+(y+136)**2,[12],colors=["b"])
plt.contour(x,y,(x-102.1)**2+(y+144.5)**2,[9],colors=["b"])
plt.contour(x,y,(x-102.2)**2+(y+152.8)**2,[8],colors=["b"])
plt.contour(x,y,(x-102.2)**2+(y+160.8)**2,[8],colors=["b"])
plt.contour(x,y,(x-102.2)**2+(y+169)**2,[8],colors=["b"])
plt.contour(x,y,(x-102.3)**2+(y+169)**2,[8],colors=["b"])
plt.contour(x,y,(x-102.4)**2+(y+185.2)**2,[8],colors=["b"])
plt.contour(x,y,(x-102.5)**2+(y+193)**2,[9],colors=["b"])
plt.contour(x,y,(x-102.7)**2+(y+200.8)**2,[10],colors=["b"])
\verb"plt.contour"(x,y,(x-103)**2+(y+209)**2,[12],colors=["b"])
plt.contour(x,y,(x-103.2)**2+(y+218)**2,[15],colors=["b"])
plt.contour(x,y,(x-103.5)**2/18+(y+228)**2/18,[1],colors=["b"])
x=np.linspace(225,43,1000)
y=np.linspace(-25,-130,1000)
x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x-51)**2/35+(y+118)**2/57,[1],colors=["b"]||
plt.contour(x,y,(x-68)**2/400+(y+94)**2/230,[1],colors=["r"])
plt.contour(x,y,(x-68)**2/500+(y+94)**2/300,[1],colors=["orange"])
x=np.linspace(225,43,1000)
y=np.linspace(-77,-85,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-137)**2/55+(y+85)**2/55,[1],colors=["orange"])
x=np.linspace(225,43,1000)
y=np.linspace(-79,-83,1000)
x,y=np.meshgrid(x,y)
```

```
plt.contour(x,y,(x-137)**2/30+(y+85)**2/30,[1],colors=["r"])
x=np.linspace(225,43,1000)
y=np.linspace(-52,-60,1000)
\texttt{x,y=np.meshgrid}(\texttt{x,y})
plt.contour(x,y,(x-177)**2/55+(y+60)**2/55,[1],colors=["orange"])
x=np.linspace(225,43,1000)
y=np.linspace(-54,-58,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-177)**2/30+(y+60)**2/30,[1],colors=["r"])
x=np.linspace(225,43,1000)
y=np.linspace(-27,-35,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-217)**2/55+(y+35)**2/55,[1],colors=["orange"])
x=np.linspace(225,43,1000)
y=np.linspace(-29,-33,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-217)**2/30+(y+35)**2/30,[1],colors=["r"])
x=np.linspace(98.4,112,1000)
y=np.linspace(-240,-248,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-105)**2/43+(y+239)**2/80,[1],colors=["b"])
plt.plot([98.484,98.484],[-234.294,-240],color="b")
x=np.linspace(110,111.507,1000)
y=np.linspace(-234.294,-240.108,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-104.95)**2/43+(y+240)**2/80,[1],colors=["b"])
plt.plot([109.98,98.484],[-234.294,-234.294],color="b")
plt.plot([142.08,131.92],[-83,-83],color="r")
plt.plot([144.417,129.584],[-85,-65],color="orange")
plt.plot([182.073,171.94],[-58,-58],color="r")
plt.plot([184.4,169.61],[-60,-60],color="orange")
plt.plot([222.07,211.91],[-33,-33],color="r")
plt.plot([224.41,209.59],[-35,-35],color="orange")
#下藍1
x = np.linspace(254.787, 180, 1000)
y = np.linspace(74.915, 79.142, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-180)**2/11000 + (y -65)**2/200, [1], color = "blue")
#下藍2
plt.plot([180,143.4],[79.07,79.07],"b")
x = np.linspace(143.4, 81.243, 1000)
y = np.linspace(79.07, 72.116, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-144.48)**2/4000 + (y -72)**2/50,[1],color = "blue")
x = np.linspace(18.212, 81.243, 1000)
y = np.linspace(62, 72.116, 1000)
  y = np.meshgrid(x, y)
plt.contour(x, y,(x-18)**2/4000 + (y -72)**2/100,[1],color = "blue")
#下半左1黑
x = np.linspace(132.314, 218.758, 1000)
y = np.linspace(65, 0, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-100)**2/16401 + (y +41)**2/12000, [1], color = "k")
x = np.linspace(218.758, 228.066, 1000)
y = np.linspace(0, -41.263, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-100)**2/16401 + (y +41)**2/12000,[1],color = "k")
x = np.linspace(26.245, 193.086, 1000)
y = np.linspace(60, 1.428, 1000)
x, y = np.meshgrid(x, y) 
plt.contour(x, y,(x+30)**2/56215 + (y +30)**2/8583,[1],color = "k")
#下半左3黑
x = np.linspace(24.966, 140.766, 1000)
y = np.linspace(60, -28.576, 1000)
x, y = np.meshgrid(x, y) 
plt.contour(x, y,(x+50)**2/37605 + (y +50)**2/14226,[1],color = "k")
#下半左4黑
x = np.linspace(20.781, 79.5, 1000)
y = np.linspace(60, -49.401, 1000)
   y = np.meshgrid(x, y)
plt.contour(x, y,(x-19.823)**2/3600 + (y +62.05)**2/14900,[1],color = "k")
#下半左5黑
```

```
x = np.linspace(19.812, 31.597, 1000)
y = np.linspace(60, -68.008, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(31.597, 31.62, 1000)
y = np.linspace(-68.008, -77.295, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+0)**2/1000 + (y +75)**2/30000, [1], color = "k")
x = np.linspace(31.597, 31.62, 1000)
y = np.linspace(-68.008, -72.705, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(31.62, 31.65, 1000)
y = np.linspace(-72.705, -77.295, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+0)**2/1000 + (y +75)**2/30000, [1], color = "k")
x = np.linspace(31.62, 31.61, 1000)
y = np.linspace(-72.705, -79.923, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x+0)**2/1000 + (y +75)**2/30000,[1],color = "k")
x = np.linspace(31.61, 31.292, 1000)
y = np.linspace(-79.923, -99.999, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x+0)**2/1000 + (y +75)**2/30000, [1], color = "k")
#下半左6黑
x = np.linspace(79.5, 84.95, 1000)
y = np.linspace(-50, -73.876, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-88)**2/71.75 + (y +50)**2/655, [1], color = "k")
#下半部右蓋
x = np.linspace(31.6, 40, 1000)
y = np.linspace(-78.556, -70.093, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-60)**2/900 + (y +85)**2/400, [1], color = "k")
x = np.linspace(40, 60, 1000)
y = np.linspace(-70.093, -65, 1000)
x, y = np.meshgrid(x, y)   plt.contour(x, y,(x-60)**2/900 + (y +85)**2/400,[1],color = "k")
x = np.linspace(60, 80, 1000)
y = np.linspace(-65, -70.093, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-60)**2/900 + (y +85)**2/400,[1],color = "k")
x = np.linspace(80, 85, 1000)
y = np.linspace(-70.093, -73.945, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-60)**2/900 + (y +85)**2/400,[1],color = "k")
#下半部右2蓋
x = np.linspace(84.976, 81.54, 1000)
y = np.linspace(-73.92, -60.296, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-97.35)**2/250 + (y +60)**2/500,[1],color = "k")
x = np.linspace(81.54, 81.54, 1000)
y = np.linspace(-59.704, -60.296, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-97.35)**2/250 + (y +60)**2/500, [1], color = "k")
x = np.linspace(81.54, 97.35, 1000)
y = np.linspace(-59.704, -37.639, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-97.35)**2/250 + (y +60)**2/500,[1],color = "k")
x = np.linspace(81.54, 97.35, 1000)
y = np.linspace(-59.704, -37.639, 1000)
x, y = np.meshgrid(x, y)
\texttt{plt.contour}(x, \ y, (x-97.35)^{**}2/250 \ + \ (y \ +60)^{**}2/500, \texttt{[1]}, \texttt{color} \ = \ \texttt{"k"})
x = np.linspace(104.4, 97.35, 1000)
y = np.linspace(-39.985, -37.639, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-97.35)**2/250 + (y +60)**2/500,[1],color = "k")
#下半部右3蓋
x = np.linspace(104.44, 116.75, 1000)
y = np.linspace(-40.012,-42.472, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-116.75)**2/190 + (y +38)**2/20,[1],color = "k")
#下半部右4蓋
x = np.linspace(116.75, 128.956, 1000)
y = np.linspace(-42.472, -29.493, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-116.75)**2/150 + (y +28.33)**2/200,[1],color = "k")
#下半部右5蓋
x = np.linspace(128.97, 135, 1000)
y = np.linspace(-29.412,-25.528, 1000)
x, y = np.meshgrid(x, y)
```

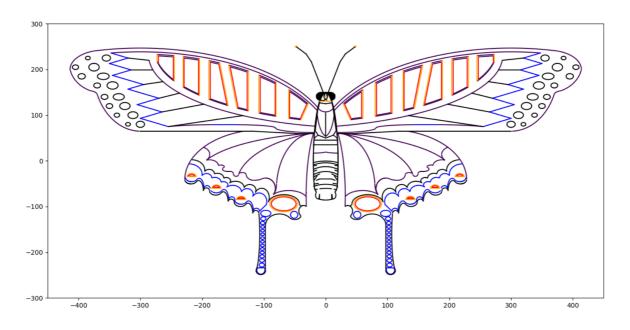
```
plt.contour(x, y,(x-135)**2/37 + (y +30)**2/20,[1],color = "k")
x = np.linspace(140.766, 135, 1000)
y = np.linspace(-28.576, -25.528, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-135)**2/37 + (y +30)**2/20,[1],color = "k")
x = np.linspace(197.78, 187.68, 1000)
y = np.linspace(29.744, 14.133, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-205)**2/300 + (y -14)**2/300,[1],color = "k")
x = np.linspace(187.68, 187.68, 1000)
y = np.linspace(14.133, 13.867, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-205)**2/300 + (y -14)**2/300,[1],color = "k")
x = np.linspace(187.68, 193.086, 1000)
y = np.linspace(13.867, 1.428, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-205)**2/300 + (y -14)**2/300,[1],color = "k")
#下半部左2蓋
x = np.linspace(193.086, 188, 1000)
y = np.linspace(1.428, 2.247, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-188)**2/200 + (y +10)**2/150,[1],color = "k")
x = np.linspace(188, 179.835, 1000)
y = np.linspace(2.247,0, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-188)**2/200 + (y +10)**2/150,[1],color = "k")
x = np.linspace(179.835, 173.858, 1000)
y = np.linspace(0,-10.049, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-188)**2/200 + (y +10)**2/150,[1],color = "k")
#下半部左3蓋
x = np.linspace(173.858, 170, 1000)
y = np.linspace(-10.049, -9.127, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-170)**2/35.5 + (y +13)**2/15,[1],color = "k")
x = np.linspace(170, 164.042, 1000)
y = np.linspace(-9.127,-12.969, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-170)**2/35.5 + (y +13)**2/15, [1], color = "k")
x = np.linspace(164.042, 164.042, 1000)
y = np.linspace(-13.031, -12.969, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-170)**2/35.5 + (y +13)**2/15,[1],color = "k")
x = np.linspace(164.042, 164.242, 1000)
y = np.linspace(-13.031,-14, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-170)**2/35.5 + (y +13)**2/15,[1],color = "k")
#下半部左4蓋
x = np.linspace(164.243, 167.071, 1000)
y = np.linspace(-14,-17.978, 1000)
  y = np.meshgrid(x, y)
plt.contour(x, y,(x-160)**2/50 + (y +18)**2/25,[1],color = "k")
x = np.linspace(167.071, 167.071, 1000)
y = np.linspace(-18.022,-17.978, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-160)**2/50 + (y +18)**2/25,[1],color = "k")
x = np.linspace(167.071, 160, 1000)
y = np.linspace(-18.022,-23, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-160)**2/50 + (y +18)**2/25,[1],color = "k")
#下半部左6蓋
x = np.linspace(155, 149.473, 1000)
y = np.linspace(-23, -27.908, 1000)
  y = np.meshgrid(x, y)
plt.contour(x, y,(x-155)**2/30.558 + (y +28)**2/25,[1],color = "k")
#下半部左7蓋
x = np.linspace(149.47, 145, 1000)
y = np.linspace(-28.185,-33.972, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-145)**2/20 + (y +28)**2/35.666,[1],color = "k")
#下半部左8蓋
x = np.linspace(145, 141.036, 1000)
y = np.linspace(-33.972,-29.547, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y,(x-145)**2/15.715 + (y +29.5)**2/20,[1],color = "k")
x = np.linspace(141.036, 141.036, 1000)
y = np.linspace(-29.453, -29.547, 1000)
x, y = np.meshgrid(x, y)
plt.contour(x, y, (x-145)**2/15.715 + (y +29.5)**2/20, [1], color = "k")
```

```
x=np.linspace(217,192.94,1000)
y=np.linspace(2.354,-23.088,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-216.95)**2/450+(y+20)**2/500,[1],colors=["k"]")
x=np.linspace(195.94,179.94,1000)
y=np.linspace(-18,-28.609,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-188.6)**2/75+(y+28.686)**2/100,[1],colors=["k"])
x=np.linspace(179.94,165,1000)
y=np.linspace(-20.609,-37.769,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-175)**2/100+(y+37.769)**2/110,[1],colors=["k"])
x=np.linspace(136.8,165.3,1000)
y=np.linspace(-48.2,-35,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-161)**2/50+(y+43.6)**2/50,[1],colors=["k"])
x=np.linspace(155.998,132,1000)
y=np.linspace(-28.598,-58.738,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-146.14)**2/200+(y+58.738)**2/200,[1],colors=["k"]")
x=np.linspace(131.988,104,1000)
y=np.linspace(-28.733,-69.411,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-122.97)**2/100+(y+64)**2/150,[1],colors=["k"]")
x=np.linspace(113.988,80,1000)
y=np.linspace(-28.733,-90.411,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-103.61)**2/150+(y+80)**2/400,[1],colors=["k"])
x=np.linspace(92.574,43.1,1000)
y=np.linspace(-74,-89.704,1000)
x, y=np.meshgrid(x, y)
\verb|plt.contour(x,y,(x-68)**2/650+(y+94)**2/400,[1],colors=["k"]||
x=np.linspace(43.3,42.4,1000)
y=np.linspace(-89.5,-94,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-68)**2/650+(y+94)**2/400,[1],colors=["k"])
x=np.linspace(38.792,42.5,1000)
y=np.linspace(-98.728,-94.213,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-37)**2/30.305+(y+94)**2/25,[1],colors=["k"])
x=np.linspace(31.3,43.6,1000)
y=np.linspace(-97,-119.927,1000)
x,y=np.meshgrid(x,y)
\verb|plt.contour|(x,y,(x-35.763)**2/60+(y+110)**2/150,[1],colors=["k"])|
x=np.linspace(40.2,58,1000)
y=np.linspace(-120,-129,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-50)**2/95.3525+(y+120)**2/70,[1],colors=["k"])"
x=np.linspace(97.35,58,1000)
y=np.linspace(-139.953,-116,1000)
\texttt{x}, \texttt{y=np.meshgrid}(\texttt{x}, \texttt{y})
plt.contour(x,y,(x-75)**2/500+(y+140.7098)**2/600,[1],colors=["k"])
plt.plot([97.351,97.351],[-139.989,-240],"k")
x=np.linspace(112.7,97.35,1000)
y=np.linspace(-249,-240,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-105)**2/58.51+(y+240)**2/80,[1],colors=["k"])
x=np.linspace(112,112.7,1000)
y=np.linspace(-236.413,-243.606,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-105)**2/58.51+(y+240)**2/80,[1],colors=["k"])
x=np.linspace(112.007,106,1000)
y=np.linspace(-236.413,-115.085,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-113.92)**2/50+(y+160)**2/6300,[1],colors=["k"])
x=np.linspace(108.1,118.077,1000)
y=np.linspace(-108,-114.795,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-113.08)**2/25+(y+115)**2/40,[1],colors=["k"])"
x=np.linspace(118.077,130,1000)
y=np.linspace(-114.795,-92,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-125.823)**2/60+(y+115)**2/500,[1],colors=["k"])"
x=np.linspace(228.066,218.02,1000)
y=np.linspace(-41.263,-50.487,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-218.02)**2/101+(y+41)**2/90,[1],colors=["k"])
x=np.linspace(226.046,209.995,1000)
y=np.linspace(-46.71,-50.5,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-218.02)**2/101+(y+41)**2/90,[1],colors=["k"])
x=np.linspace(210.2,188,1000)
y=np.linspace(-42.1,-64.6,1000)
```

```
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-205.79)**2/60+(y+65.49)**2/500,[1],colors=["k"])
x=np.linspace(198.3,187,1000)
y=np.linspace(-66,-55.5,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-193.049)**2/25+(y+65.49)**2/40,[1],colors=["k"])
x=np.linspace(188,169.663,1000)
y=np.linspace(-75,-65,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour" (x,y,(x-178)**2/101+(y+65.49)**2/90,[1],colors=["k"]")
x=np.linspace(169.663,157.964,1000)
y=np.linspace(-67,-88.866,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-165.7)**2/60+(y+90)**2/500,[1],colors=["k"])
x=np.linspace(157.964,148,1000)
y=np.linspace(-83,-91,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-153.045)**2/25+(y+90)**2/40,[1],colors=["k"])
x=np.linspace(130,148.9,1000)
y=np.linspace(-99.887,-90,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-138)**2/101+(y+90.4)**2/90,[1],colors=["k"])
#下半部藍曲
x=np.linspace(221.34,200.12,1000)
y=np.linspace(-6.639,-32.484,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-221.34)**2/450+(y+29)**2/500,[1],colors=["b"])
x=np.linspace(184,200.386,1000)
y=np.linspace(-27.686,-37.609,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-192.99)**2/75+(y+37.686)**2/100,[1],colors=["b"])
x=np.linspace(184.3,169.39,1000)
y=np.linspace(-36.281,-46.769,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-179.39)**2/100+(y+46.769)**2/110,[1],colors=["b"])
x=np.linspace(158,169.39,1000)
y=np.linspace(-57.58,-45.5,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour" (x,y,(x-165.39)**2/50+(y+52.6)**2/50,[1],colors=["b"])
x=np.linspace(160.388,135,1000)
y=np.linspace(-53.5,-68,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-150.53)**2/200+(y+67.738)**2/200,[1],colors=["b"])
x=np.linspace(136.36,117.3,1000)
y=np.linspace(-60,-78.051,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-127.36)**2/100+(y+73)**2/150,[1],colors=["b"])
x=np.linspace(118.23,95,1000)
y=np.linspace(-70,-95.964,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour"(x,y,(x-108)**2/160+(y+89)**2/350,[1],colors=["b"])
plt.plot([96.26,107.07],[-95.964,-109.986],"b")
#下下半部藍曲1
x=np.linspace(107.08,117.077,1000)
y=np.linspace(-110,-103,1000)
\texttt{x}, \texttt{y=np.meshgrid}(\texttt{x}, \texttt{y})
plt.contour(x,y,(x-112.08)**2/25+(y+110)**2/40,[1],colors=["b"])
#下下半部藍曲2
x=np.linspace(129,117.077,1000)
y=np.linspace(-87,-109.795,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-124.823)**2/60+(y+110)**2/500,[1],colors=["b"])
#下下半部藍曲3
x=np.linspace(129,145.046,1000)
y=np.linspace(-91.142,-95,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-137)**2/101+(y+85.4)**2/90,[1],colors=["b"])
#下下半部藍曲3
x=np.linspace(139,147.042,1000)
y=np.linspace(-94.697,-85.024,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-137)**2/101+(y+85.4)**2/90,[1],colors=["b"])
#下下半部藍曲4
```

```
x=np.linspace(147,156.964,1000)
y=np.linspace(-86,-78,1000)
{\sf x,y=np.meshgrid}({\sf x,y})
plt.contour(x,y,(x-152.045)**2/25+(y+85)**2/40,[1],colors=["b"])
#下下半部藍曲6
x=np.linspace(156,168.663,1000)
y=np.linspace(-83.866,-62,1000)
x, y=np.meshgrid(x, y)
plt.contour(x,y,(x-164.7)**2/60+(y+85)**2/500,[1],colors=["b"])
#下下半部藍曲7
x=np.linspace(168.663,186,1000)
y=np.linspace(-62,-70,1000)
x, y=np.meshgrid(x, y)
\verb"plt.contour"(x,y,(x-177)**2/101+(y+60.49)**2/90,[1],colors=["b"])
#下下半部藍曲8
x=np.linspace(197.045,187,1000)
y=np.linspace(-60,-54,1000)
x,y=np.meshgrid(x,y)
\verb"plt.contour" (x, y, (x-192.049)**2/25+(y+60.49)**2/40, [1], \verb"colors=["b"]")
#下下半部藍曲9
x=np.linspace(197.045,208.995,1000)
y=np.linspace(-60,-38,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-204.79)**2/60+(y+60.49)**2/500,[1],colors=["b"])
#下下半部藍曲10
x=np.linspace(208.995,225.046,1000)
y=np.linspace(-41.71,-46,1000)
x,y=np.meshgrid(x,y)
plt.contour(x,y,(x-217.02)**2/101+(y+36)**2/90,[1],colors=["b"])
#下下半部藍曲11
x=np.linspace(227.8,217.02,1000)
y=np.linspace(-36,-45.487,1000)
{\sf x,y=np.meshgrid}({\sf x,y})
plt.contour(x,y,(x-217.02)**2/101+(y+36)**2/90,[1],colors=["b"])
plt.plot([155,160],[-23,-23],color="k")
x=np.linspace(-20,20,1000)
y=np.linspace(-54.944,150,1000)
plt.xlim(-450,450)
plt.ylim(-300,300)
plt.show()
```

# 輸出的圖



## 參考資料

#### 如何在 Matplotlib 中繪製圓

使用 matplotlib.patches.Circle() 方法在 Matplotlib 中繪製圓 用圓方程在 Matplotlib 中繪製圓 點的散點圖 要在

https://www.delftstack.com/zh-tw/h owto/matplotlib/how-to-plot-a-circle-inmatplotlib/



### Python利用參數方程畫圓

1. 圓的參數方程表示形式 Python代碼: import numpy as np import matplotlib.pyplot as plt # 1. 圓半徑 r =

https://www.twblogs.net/a/5c76b898bd9eee31cea5480f



#### 用python画多个圆 Python用图例在网格上绘制多个圆 weixin 399084

我想在一个N乘M的网格上画出不同颜色和相同大小的圆。在x,y位置,可以是在 我希望每个专栏都有一个x标签(这将是一个星期),和一个ylabel(这将是一个3了一种使用子图绘制圆的方法,但是我无法获得文本和网格。在 下面是我画圆圈

https://blog.csdn.net/weixin\_39908462/article/details/110546769?utm\_term: E7%94%BB%E5%A4%9A%E4%B8%AA%E5%9C%86&utm\_medium=distribut result.none-task-blog-2~all~sobaiduweb~default-0-110546769&spm=3001.443(

### Python實現的圓形繪製(畫圓)示例

https://codertw.com/%E7%A8%8B%E5%BC%8F%E8%AA%9E%E8%A8%80/360149/