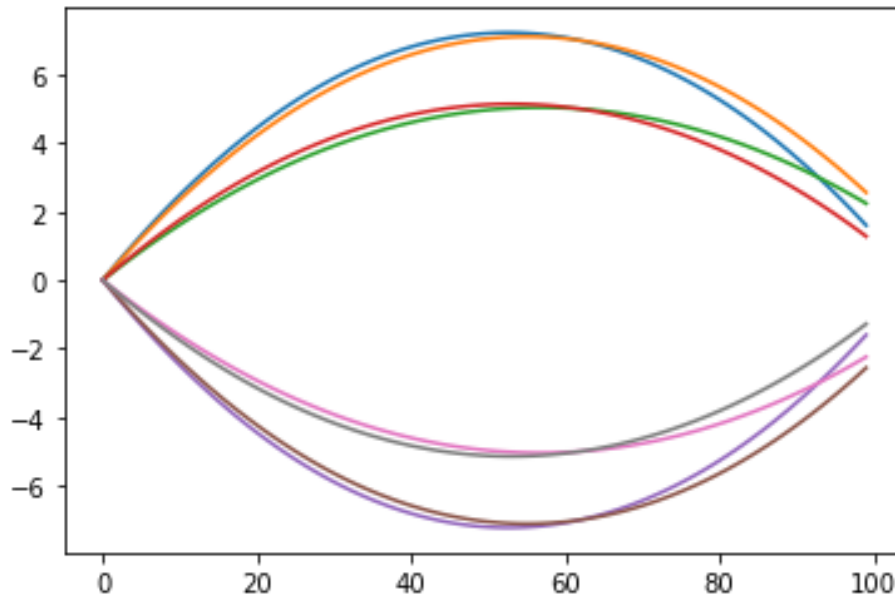
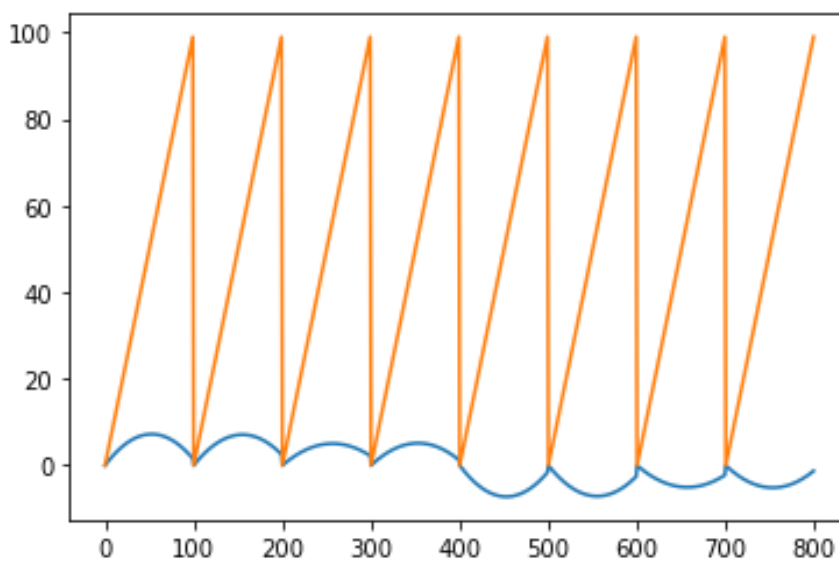


These are the input trajectories.

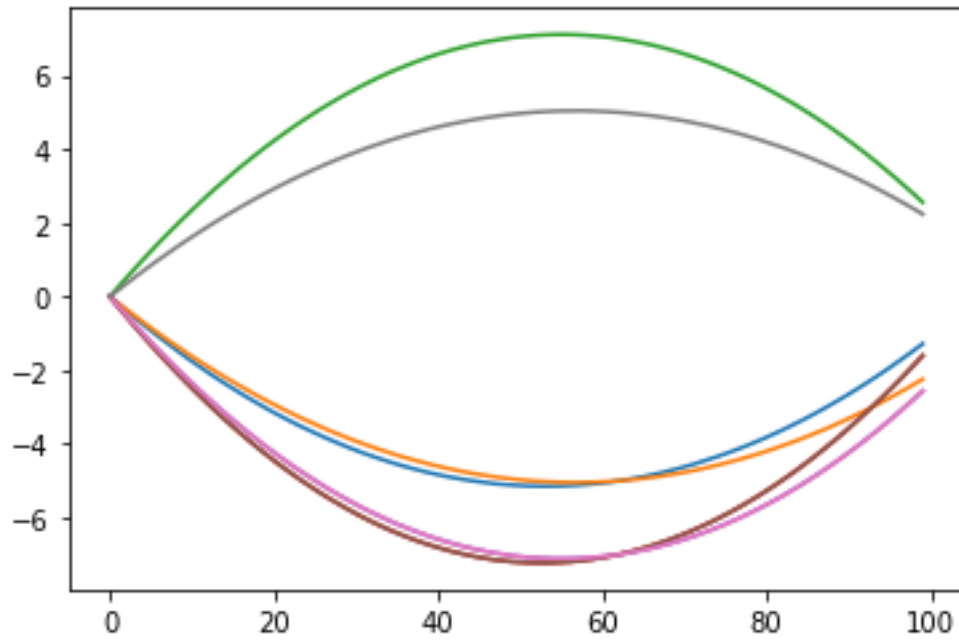


Here they are paired as $[x,y]$ data points.



This is the simulation of the mixture model in a naive sense, though it gives a good estimate.

It is generated using trajectories matrix of shape (8,100), and samples 8 times.



This model is created using [x,y] paired input type, with 8 gaussian mixtures.



Means of gaussians:

```
[[-3.01741742 16.43521515]
 [-4.07986043 84.1091818 ]
 [ 4.72426317 42.85021952]
 [ 1.41095352  5.98422235]
 [-5.68222781 50.38293   ]
 [ 2.82893086 93.22461467]
 [ 5.54175803 68.99009125]
 [ 4.01208063 22.78168627]]
```

Covariances of gaussians:

```
[[[ 3.02279158e+00 -1.64390442e+01]
   [-1.64390442e+01  9.93313658e+01]]

 [[ 1.91093618e+00  1.13961300e+01]
   [ 1.13961300e+01  9.03299268e+01]]

 [[ 1.43487093e-01  3.06773395e+00]
   [ 3.06773395e+00  7.79406861e+01]]]
```

```

[[ 1.47150150e+00  6.21905291e+00]
 [ 6.21905291e+00  2.64664928e+01]]

[[ 1.15233257e+00 -3.40588738e+00]
 [-3.40588738e+00  1.62787195e+02]]

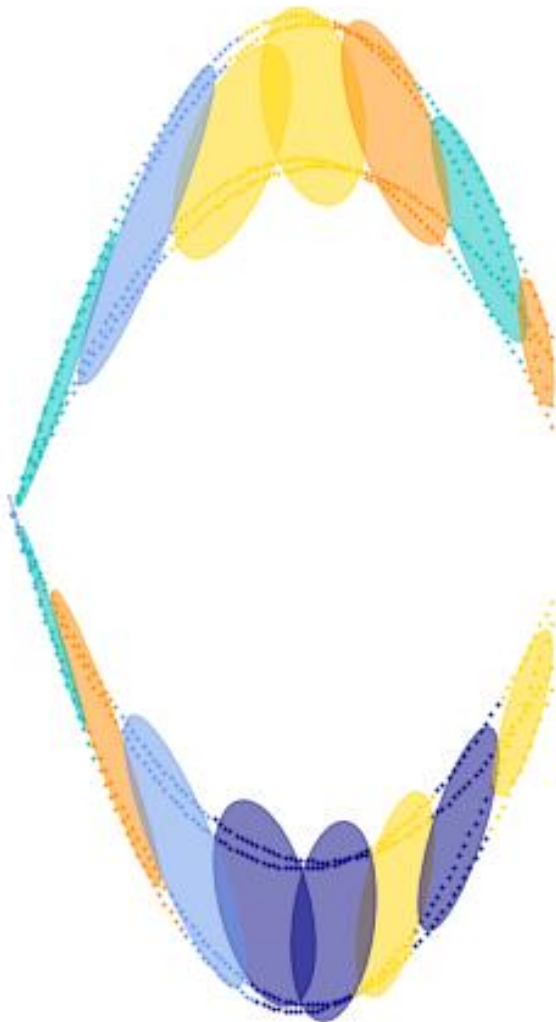
[[ 6.19417017e-01 -2.36065365e+00]
 [-2.36065365e+00  1.57469048e+01]]

[[ 1.62418343e+00 -1.23884044e+01]
 [-1.23884044e+01  1.59488956e+02]]

[[ 3.52175273e+00  1.89318026e+01]
 [ 1.89318026e+01  1.12084304e+02]]]

```

This model is created using [x,y] paired input type, with 16 gaussians.



Means of gaussians:

```

[[ 5.52353426 69.93500021]
 [ 3.26029149 16.89733648]
 [ 5.65550717 45.95310326]]

```

```

[-4.11845323 85.44287337]
[ 0.27011176 1.02259785]
[-5.24227129 39.98438461]
[-2.48329133 95.90909793]
[ 5.91763255 58.64830676]
[-2.06434447 9.40069474]
[ 4.89667119 31.33447077]
[-5.89902783 54.85954085]
[-5.52045956 70.0552968 ]
[ 4.57632425 81.58600629]
[ 1.64884309 7.15070971]
[-4.17803222 24.3149739 ]
[ 2.89308706 93.50276674]]
Covariances of gaussians:
[[[ 1.10145176 -2.95843252]
[ -2.95843252 24.60096189]]

[[ 2.3044051 10.21872354]
[ 10.21872354 49.15486574]]

[[ 1.11124867 2.86680104]
[ 2.86680104 43.03479757]]

[[ 1.33035153 6.03860765]
[ 6.03860765 38.1429253 ]]

[[ 0.14847124 0.56259121]
[ 0.56259121 2.13246131]]

[[ 1.20103529 -5.07735097]
[ -5.07735097 57.39970471]]

[[ 0.42275947 0.93720975]
[ 0.93720975 5.06824658]]

[[ 1.04566249 -1.3453992 ]
[ -1.3453992 29.85592972]]

[[ 1.9356766 -8.55557739]
[ -8.55557739 38.82372333]]

[[ 1.93456911 9.22679116]
[ 9.22679116 61.80893947]]

[[ 1.02625263 1.91112862]
[ 1.91112862 45.87938285]]

[[ 1.31201018 5.42726406]
[ 5.42726406 48.00493207]]

[[ 1.08420864 -4.01488327]
[ -4.01488327 26.58098686]]

[[ 1.04601703 4.18635072]
[ 4.18635072 17.09301259]]

[[ 2.66120811 -13.38246814]
[-13.38246814 77.52385038]]

[[ 0.71955841 -2.52225035]
[ -2.52225035 14.28339668]]]
```

This model is created using [x,y] paired input type, with 50 gaussians.



This model is created using [x,y] paired input type, with 100 gaussians.

