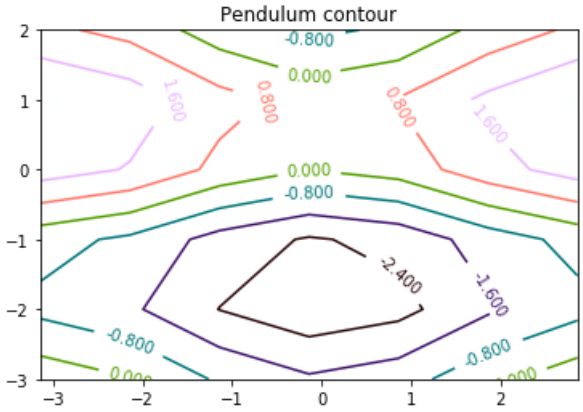
In [2]:

```
import matplotlib.pyplot as plt
import matplotlib.colors as nc
import numpy as np

colors=np.loadtxt('mycolormap.txt')
mycmap=nc.ListedColormap(colors, N=None)

x, v = np.meshgrid(np.arange(-np.pi, np.pi, 1), np.arange(-3, 3, 1))
f = (v^2)/2-np.cos(x)

fig, ax = plt.subplots()
CS = ax.contour(x, v, f, cmap=mycmap)
ax.clabel(CS, inline=1, fontsize=10)
ax.set_title('Pendulum contour')
```

Out[2]:

```
Text(0.5,1,'Pendulum contour')
```

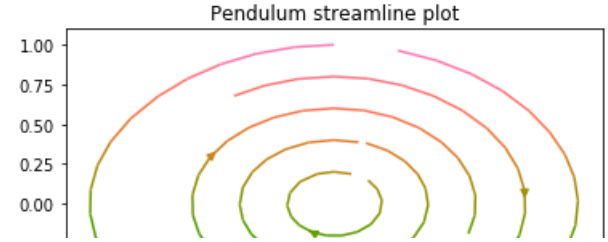


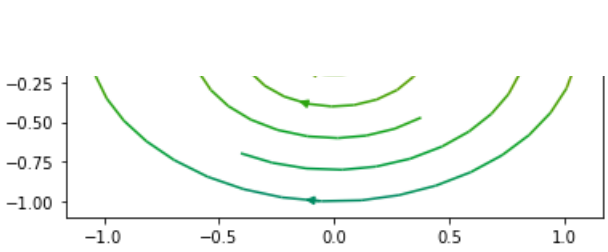
In [3]:

```
import matplotlib.pyplot as plt
import matplotlib.colors as nc
import numpy as np

colors=np.loadtxt('mycolormap.txt')
mycmap=nc.ListedColormap(colors, N=None)


x, v = np.meshgrid(np.arange(-np.pi, np.pi, 0.5), np.arange(-3, 3, 0.5))
U = v
V = -np.sin(x)
start = np.array([[0, 0.2], [0, 0.4], [0, 0.6], [0, 0.8], [0, 1.0]])



fig, ax = plt.subplots()
ax.set_title("Pendulum streamline plot")
ax.streamplot(x, v, U, V, color=U, linewidth=1.5, cmap=mycmap, start_points=start)
```

Out[3]:

```
<matplotlib.streamplot.StreamplotSet at 0x24c8ef8ed68>
```





In [ ]: