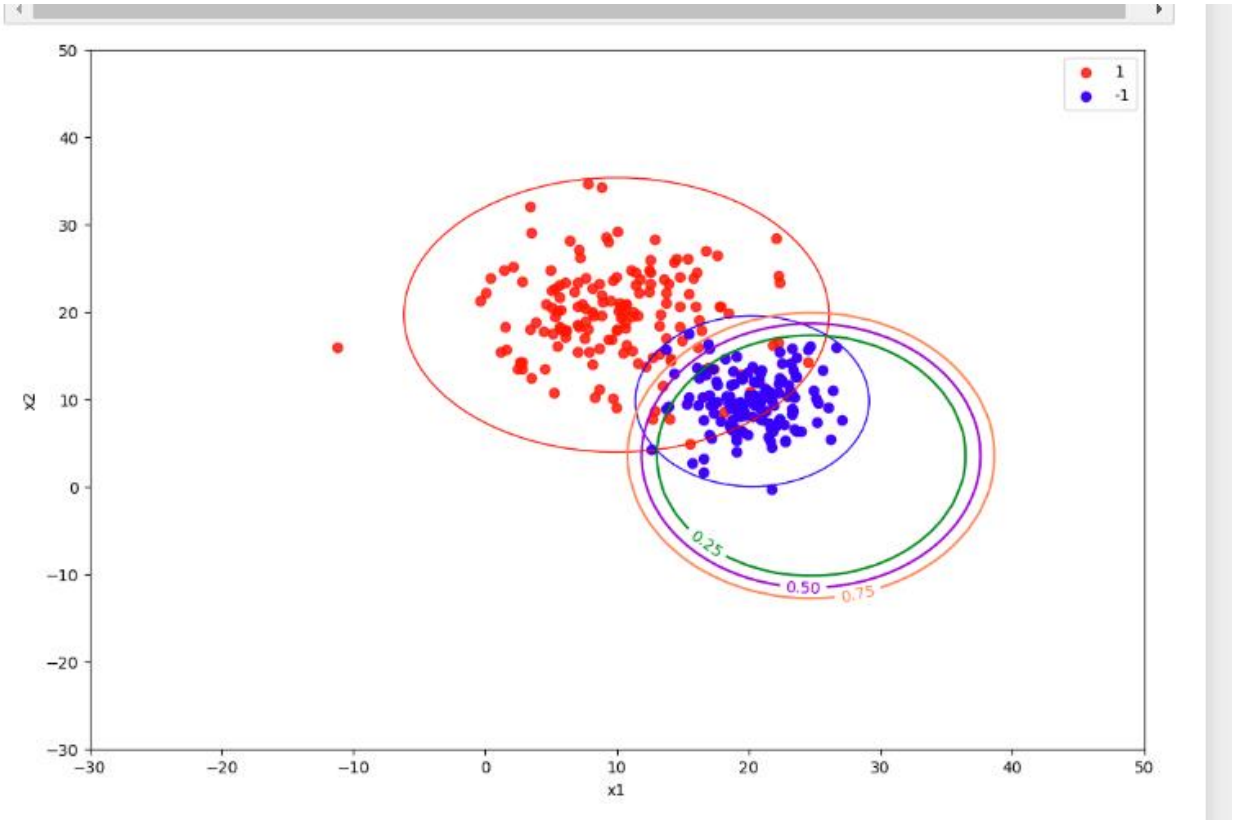
Part 1

We notice there is no much diff between error for two models but the first one is slightly better

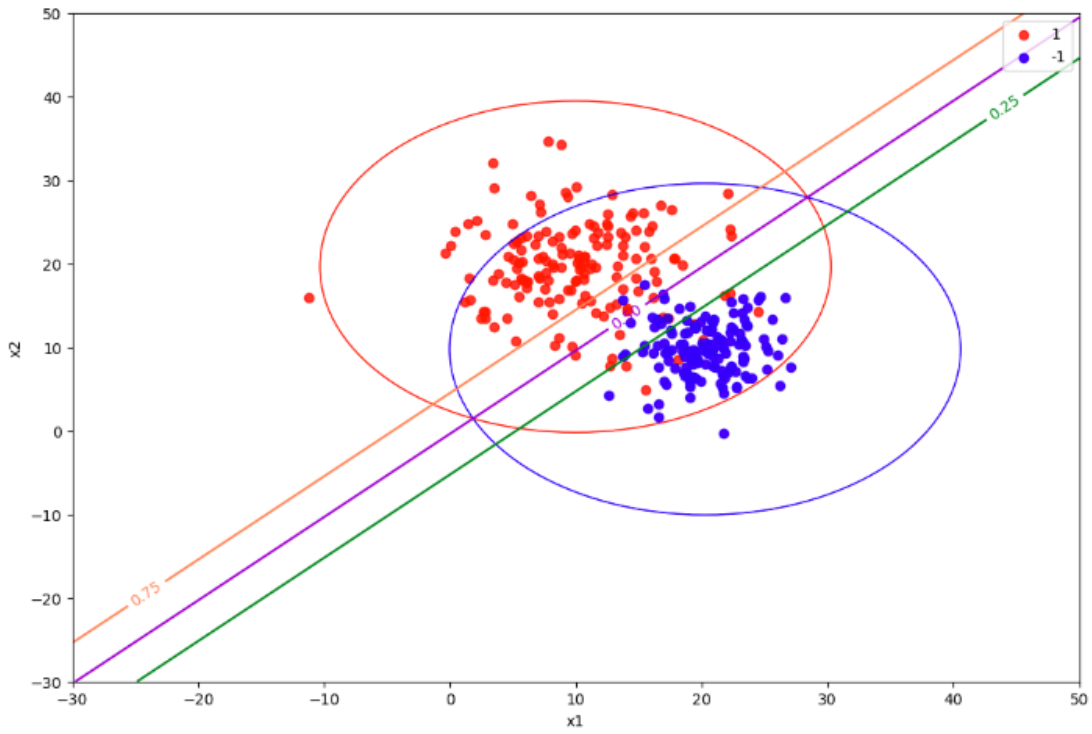
Plot 1



Plot 2

In [38]:
```
#plotting secound graph for part 1
fig, ax = hw_plot()

hw_scatter(fig, ax, train_data_p, train_data_n)
confidence_ellipse(mu_p, cov_p, ax, edgecolor = p_color)
confidence_ellipse(mu_n, cov_n, ax, edgecolor = n_color);
cs = ax.contour(*grid(x1s,x2s,prob_p_cond_HW),[0.25, 0.5, 0.75],colors=['green','darkviolet', 'coral'])
ax.clabel(cs);
```



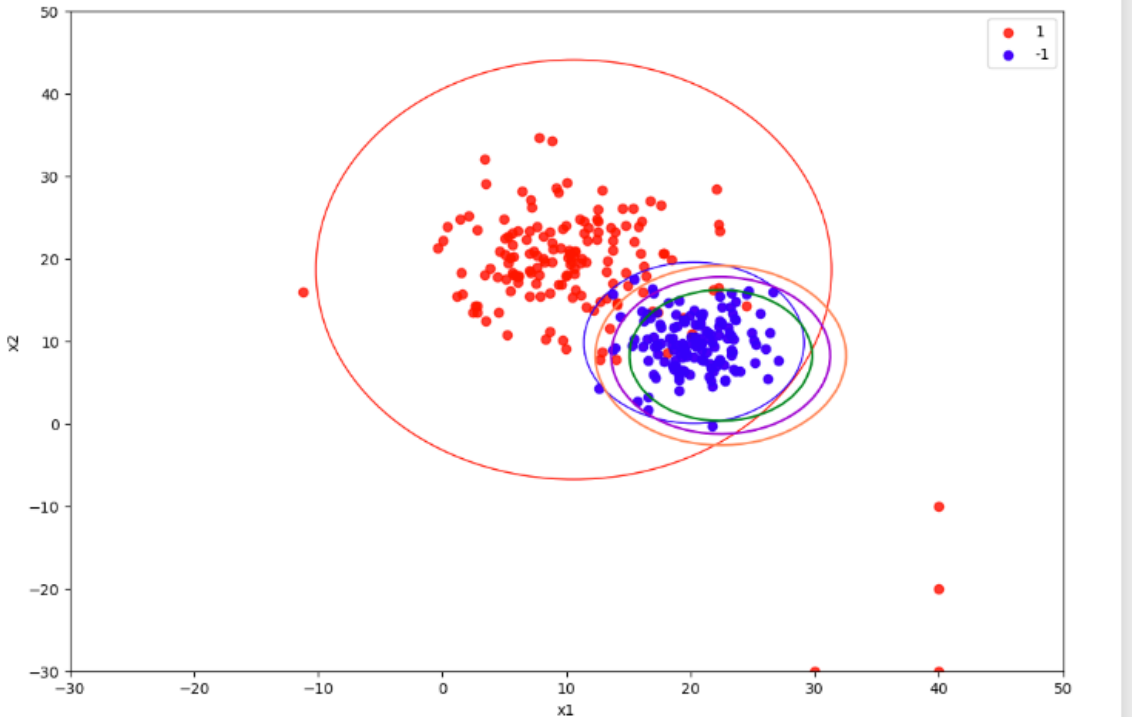
Part 2

We notice that there is error difference between two models because of the red outliers so the first model is much better

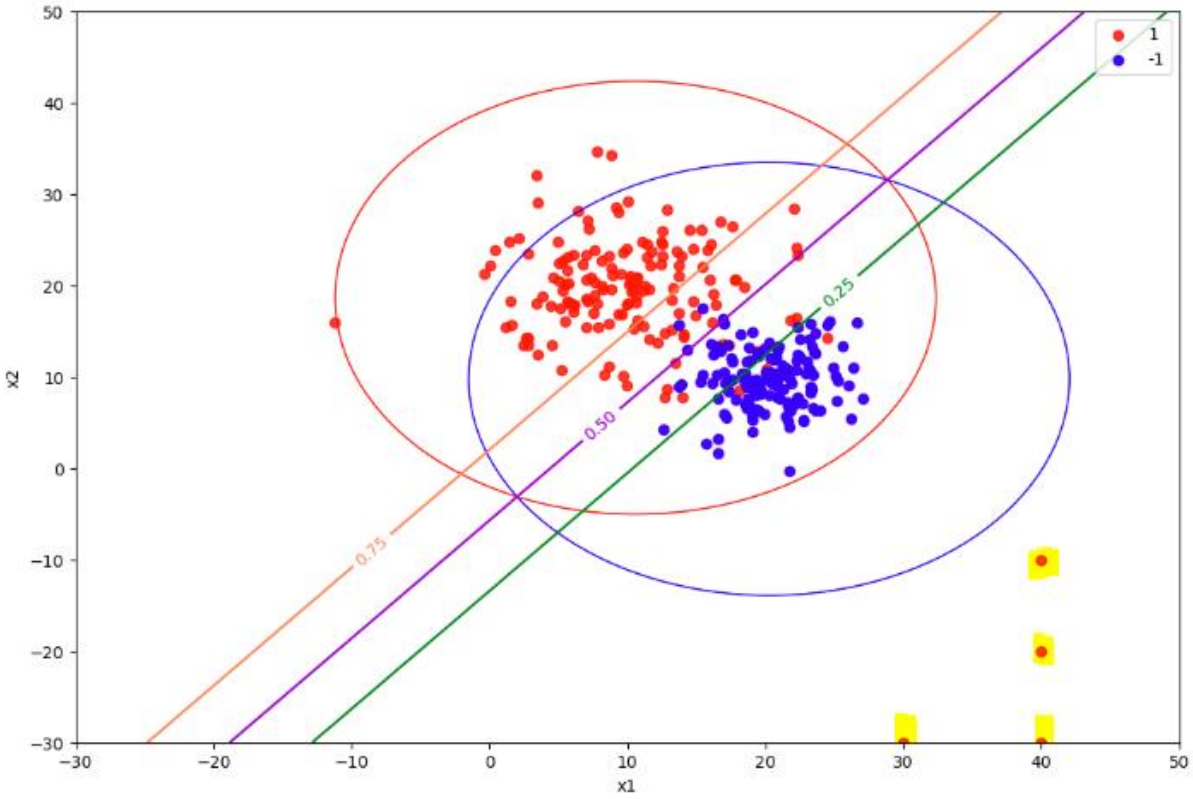
Plot 1

In [43]:
```
fig, ax = hw_plot()
hw_scatter(fig, ax, train_data_p, train_data_n)
confidence_ellipse(mu_p, cov_p, ax, edgecolor = p_color)
confidence_ellipse(mu_n, cov_n, ax, edgecolor = n_color);

ax.clabel(cs);
cs = ax.contour(*grid(x1s,x2s,prob_p_cond_HW),[0.25, 0.5, 0.75],colors=['green','darkviolet', 'coral'])
```



Plot 2



The outliers are classified to the wrong class as highlighted