1. In fourth part, the error rate is high. This is because of the nature of dataset. The positive and negative dataset are ~~lying~~ distributed in the concentric circles. This feature of the dataset is very hard to capture using the classifier which we are using.

Note: The present classifier is linear in nature.

We can solve this problem if we choose the classifier similar to the nature of dataset.

So, choose classifier which is dependent on radius like $sign(P(r - \phi))$. Here r is the distance from origin. This classifier will give +1 or -1 depending upon if datapoint is either outside or inside the circle.