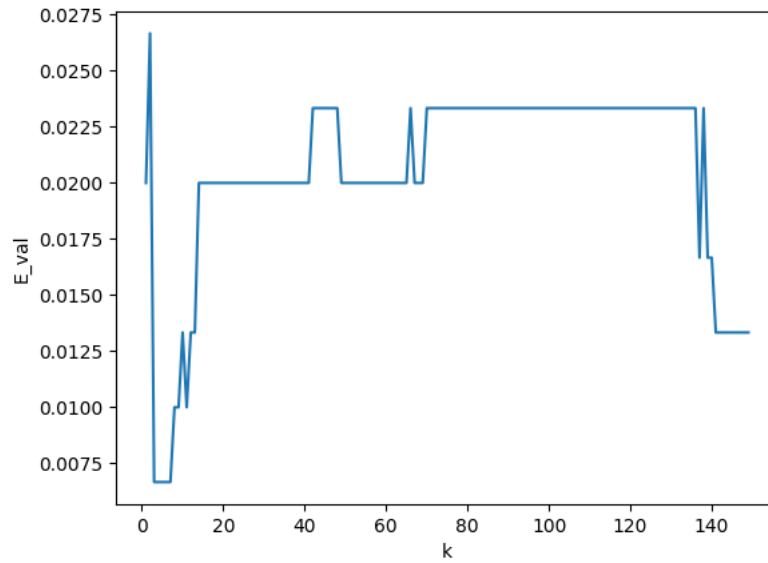
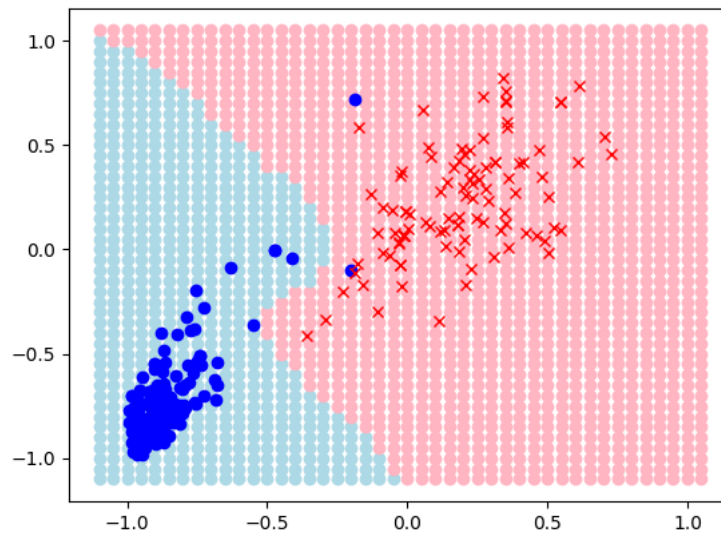


1. (a)  $k = 3$  was chosen as the optimal value for  $k$ , the graph is shown:



- (b) For  $k = 3$ , the decision boundary was:



My code uses in-sample error to choose the optimal  $k$ , so in sample and cross validation error were 0.0067

- (c) 0.0081, test error was done by checking all the points in the validation set and comparing their output to what would've been the output in the training set.

## 2. RBF network