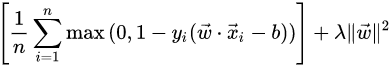
YOUR TASK:  
Implement linear Support Vector Machines in tensorflow environment. This will allow you to practice your skills working with tensorflow library and better understand how SVM works.  
  
YOUR DATA:  
Artificially generated 2-dimensional points, not linearly separable.  
  
INSTRUCTIONS:  
1)Given that we have not linearly separable data, but we want to build an linear SVM, we will need to allow for misclassifications, or, in other words, we will build a soft margin (you can read about it in wikipedia, <https://en.wikipedia.org/wiki/Support_vector_machine>), which uses hinge loss function.  
  
2) Start by defining placeholders for input data and trainable variables - be cautious, make sure dimensions are correct  
  
3) Then build the SVM model by defining its loss function. Use this formula:

  
  
5) Define optimizer you will use (standard Gradient Descent will work just fine, be careful selecting learning rate), and its training step  
  
6) Install tensorboard library if it's not there yet and inspect the graph.  
Intsructions here - <http://ischlag.github.io/2016/06/04/how-to-use-tensorboard/>  
It's very convinient to see if all the part are connected correctly  
  
7) Run your code and see what is the output (plotting functionality is provided, just use it)  
  
8) Debug your code until the output looks reasonable

\* For those who think it is too easy - try implementing an RBF kernel to allow for more accurate classifications