Machine Learning HW4

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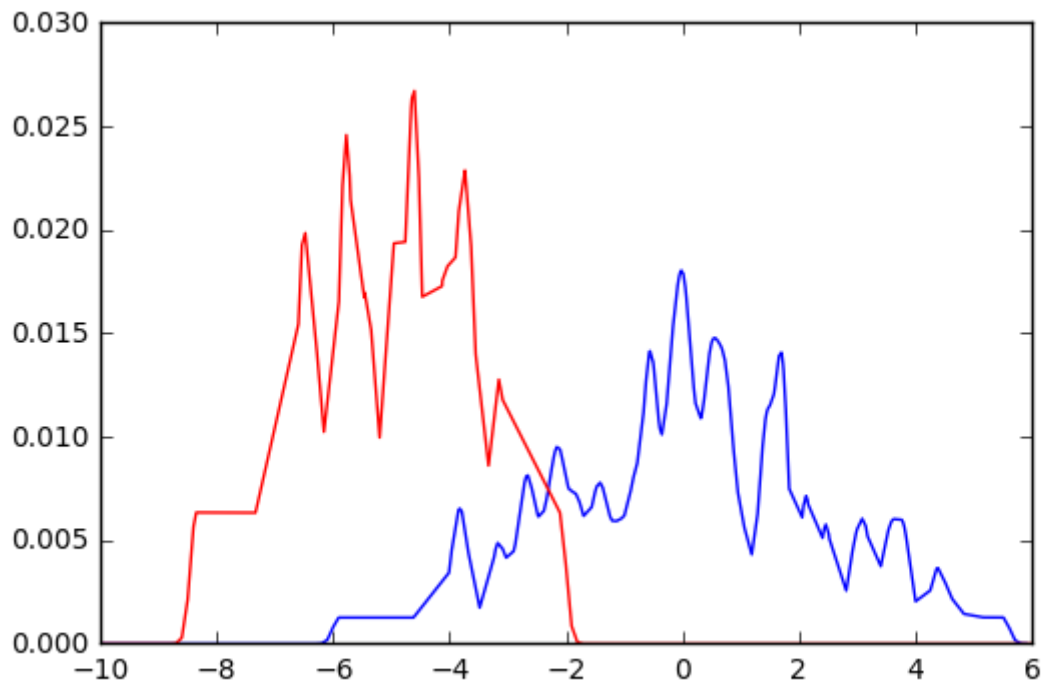
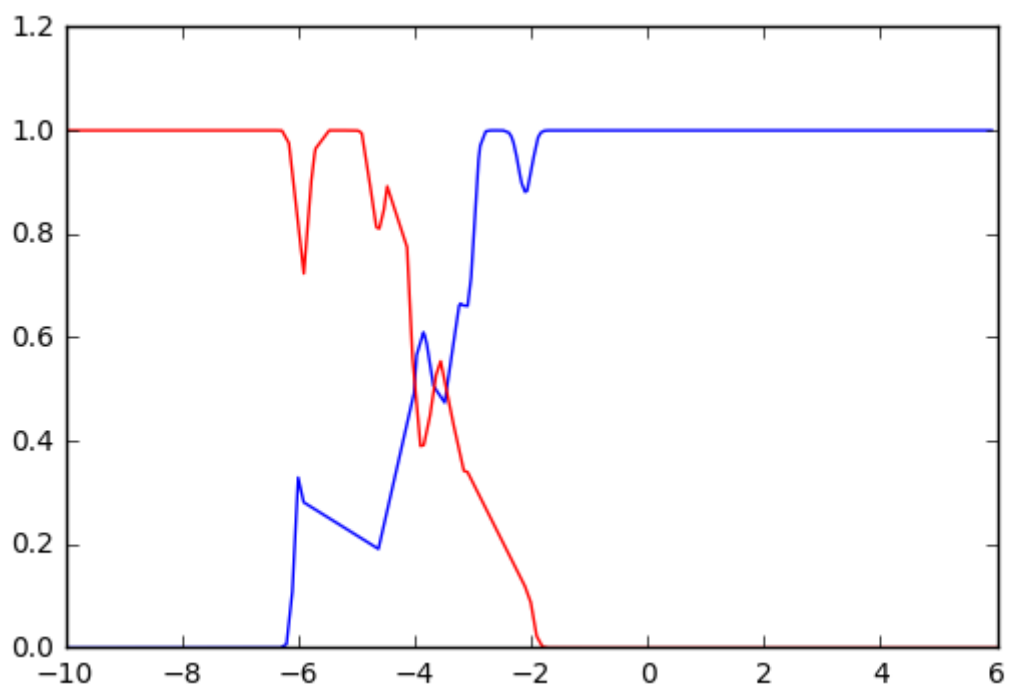|		Q1-a	Q1-b	Q1-c	Q2	Total
Grade	Max	1	1	1	2	5
	Expected	1	1	1	2	5

Q1

To run codes Jupyter Notebook is needed. just it have to be loaded into jupyter notebook and each section can be run pressing Shift+Enter and all the resutls are self explanatory.
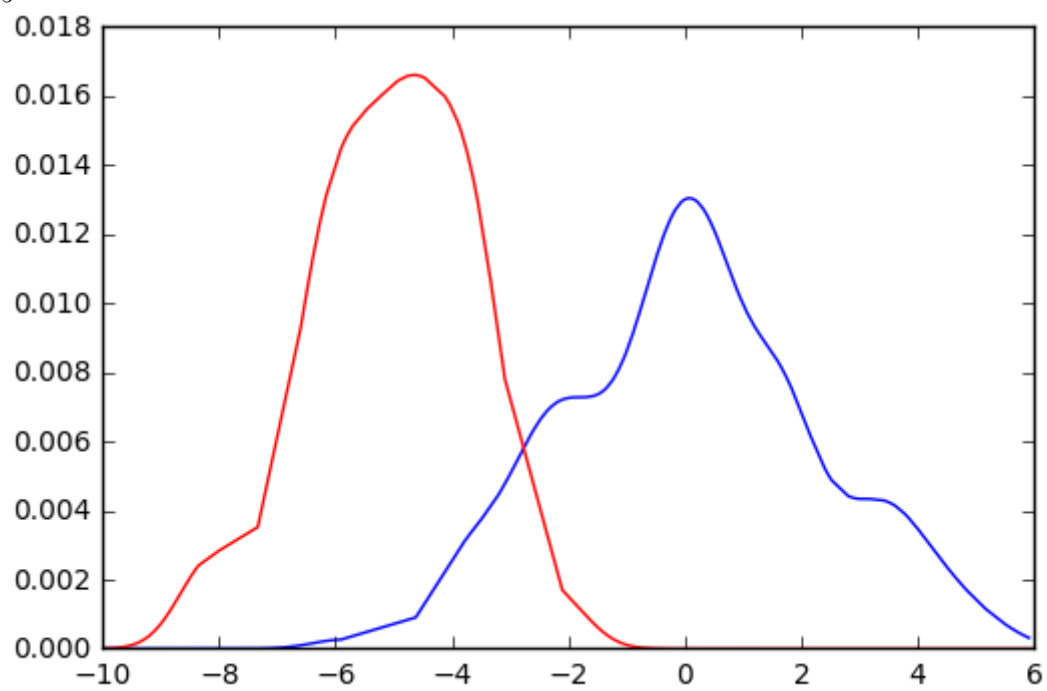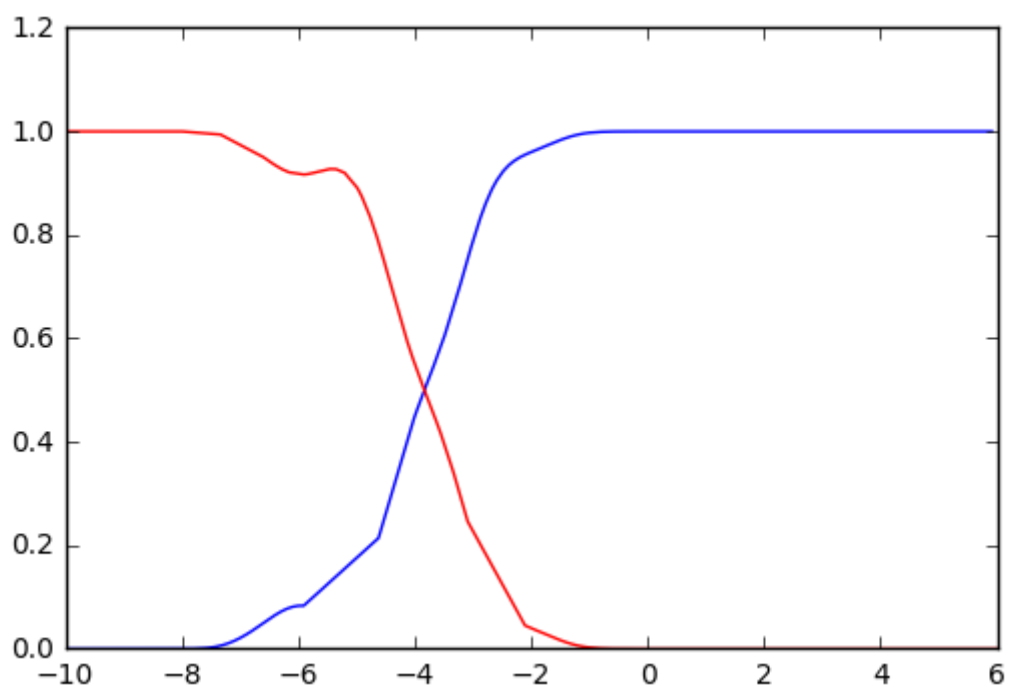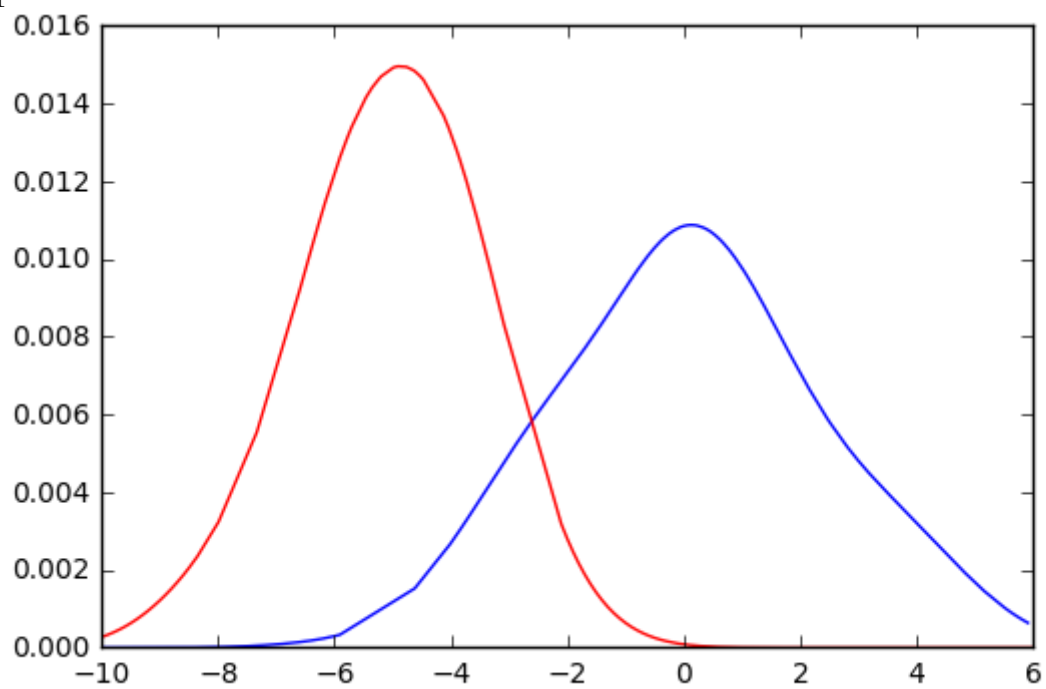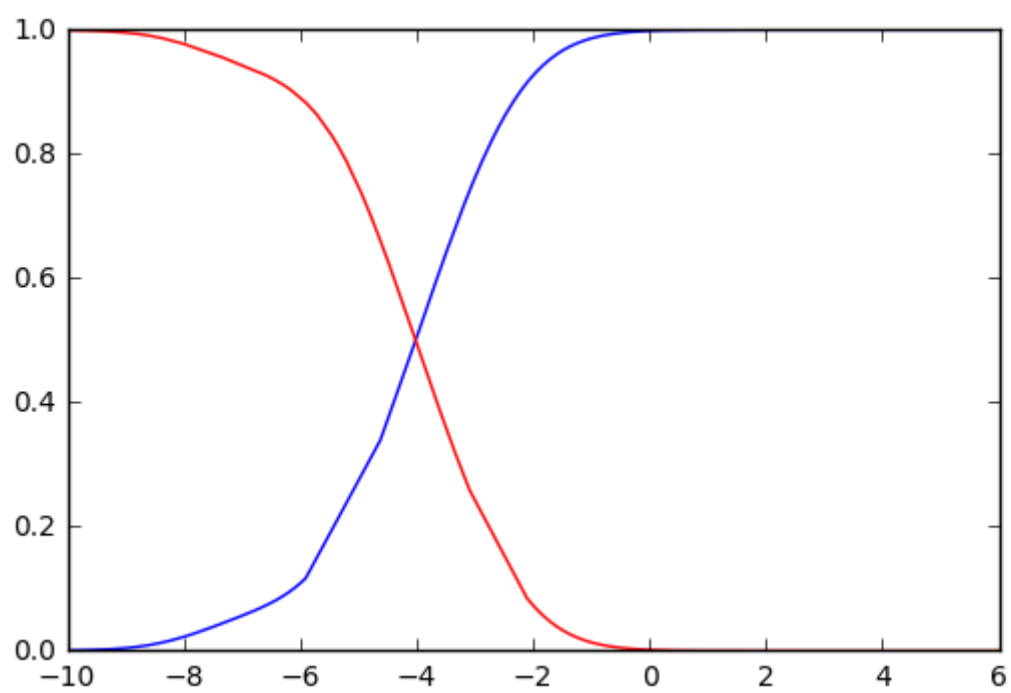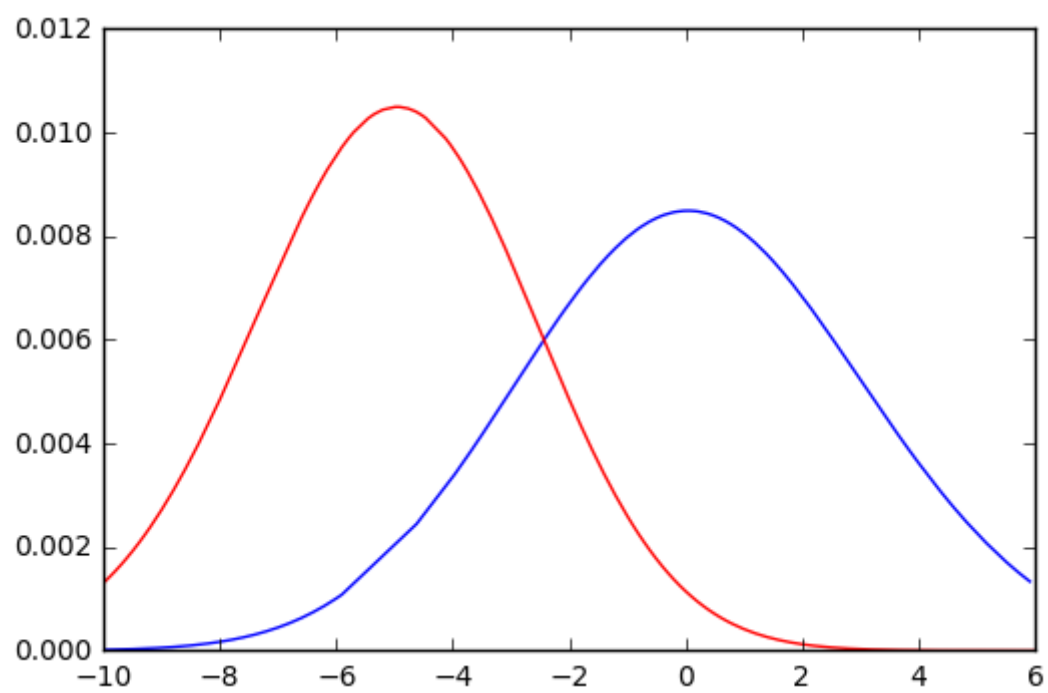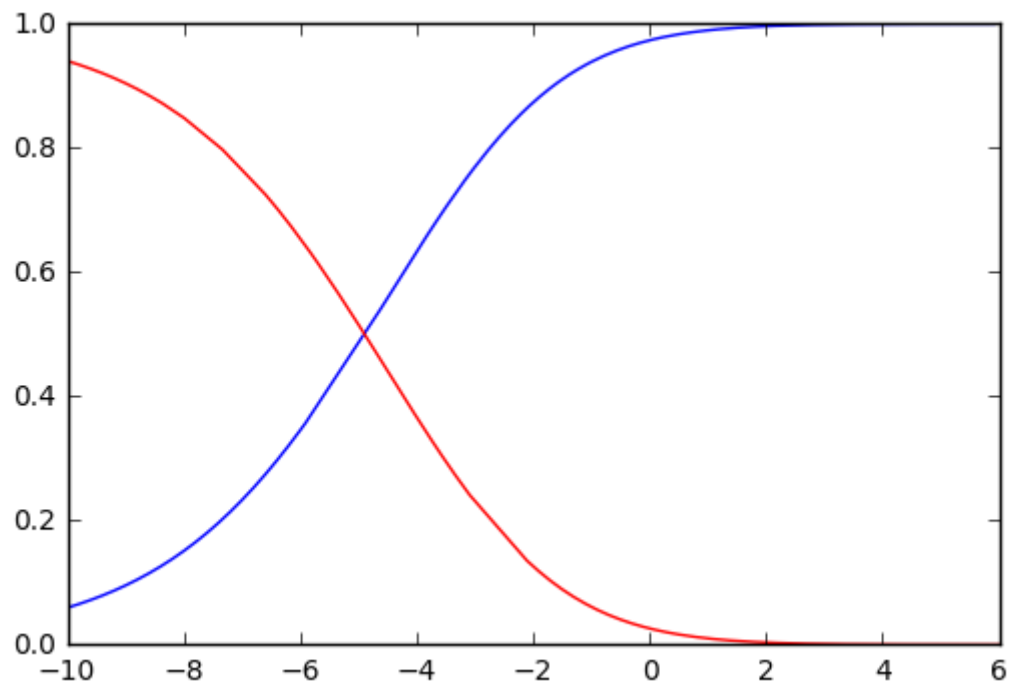
Q1-a

h=0.1

h=0.5

h=1

h=2

Q1-b

```
In [82]: print 'prob(c=0|x) = ', prob_c([-10, 10], [data_a, data_b], 2, 0)
         print 'prob(c=1|x) = ', prob_c([-10, 10], [data_a, data_b], 2, 1)

         prob(c=0|x) =  0.97424372234
         prob(c=1|x) =  0.0257562776595
```

Q1-c

```
In [85]: print 'prob(c=0|x) = ', prob_c([-10, 10], [data_a, data_b], 2, 0)
         print 'prob(c=1|x) = ', prob_c([-10, 10], [data_a, data_b], 2, 1)

         prob(c=0|x) =  0.854894056688
         prob(c=1|x) =  0.145105943312
```

Q2

```
% 80.5
% 80.5
% 75.5
% 80.5
% 78.0
% 79.0
% 82.5
% 84.0
% 76.0
% 75.0
average accuracy: % 79.15
std of accuracy:   0.0286400069832
```