2B)

```
# COUNT
# Epoch: 1 => Mistakes: 374.4
# Epoch: 2 => Mistakes: 368.8
# Epoch: 5 => Mistakes: 220.2
# Epoch: 10 => Mistakes: 187.2
# Epoch: 20 => Mistakes: 234.4
# Epoch: 50 => Mistakes: 75.2
# Epoch: 100 => Mistakes: 82.2
# Epoch: 200 => Mistakes: 50.8
# Epoch: 500 => Mistakes: 34.2
# Epoch: 1000 => Mistakes: 31.4
# Epoch: 2000 => Mistakes: 29.0
# Epoch: 5000 => Mistakes: 29.8
# Epoch: 10000 => Mistakes: 29.8

# Epoch: 2000 => 3 Errors on Training and 27 Errors on Testing


# BINARY
# Epoch: 1 => Mistakes: 374.4
# Epoch: 2 => Mistakes: 374.2
# Epoch: 5 => Mistakes: 71.8
# Epoch: 10 => Mistakes: 92.8
# Epoch: 20 => Mistakes: 30.6
# Epoch: 50 => Mistakes: 24.4
# Epoch: 100 => Mistakes: 21.8
# Epoch: 200 => Mistakes: 21.6
# Epoch: 500 => Mistakes: 22.0
# Epoch: 1000 => Mistakes: 21.8
# Epoch: 2000 => Mistakes: 21.8

# Epoch: 200 => 2 Errors on Training and 15 Errors on Testing
```

2C)

```
# COUNT
# Positive: ['will', 'remov', 'call', 'dollarnumb', 'name', 'busi', 'compani', 'site',
'monei', 'below', 'order', 'report', 'guarante', 'size', 'numberc']
# Negative: ['your', 'our', 'free', 'click', 'send', 'year', 'market', 'month',
'profession', 'insur', 'face', 'anumb', 'numberb', 'enumb', 'bnumber']

# BINARY
# Positive: ['your', 'we', 'will', 'email', 'here', 'our', 'pleas', 'click', 'remov',
'dollarnumb', 'form', 'monei', 'below', 'guarante', 'sight']
```

```
# Negative: ['no', 'inform', 'free', 'name', 'nbsp', 'offer', 'market', 'life',
'hour', 'within', 'pai', 'dollar', 'credit', 'fill'
'deathtospamdeathtospamdeathtospam']
```

3A)
COUNT:
MultinomialNB: 38 Mistakes
BernoulliNB: 57 Mistakes

BINARY:
MultinomialNB: 33 Mistakes
BernoulliNB: 57 Mistakes

The Naïve Bayes performs relatively poorly. The Multinomial model outperformed the Bernoulli model

3B)
COUNT:
LogisticRegression: 17 Mistakes

BINARY:
LogisticRegression: 18 Mistakes

The Logistic Regression model performed relatively well. It outperformed the Naïve Bayes models.