DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Indian Institute of Technology Jodhpur
Report: Assignment 2, Subject:ML2
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Ans 1)
a)

Results
1) Accuracy on Vanilla SGD	67%
2) Accuracy on SGD with Momentum	75%
3) Accuracy on Adam	78%

b)

1) Accuracy with Dropout	75%
2) Accuracy with Batch Normalization	78%

c)

1) Accuracy with Identity	72%
2) Accuracy with Sigmoid	78%
3) Accuracy with Tanh	74%
4) Accuracy with Relu	78%

d)

1) Accuracy with Cross Entropy Loss	78%
2) Accuracy with MSELoss	74%
3) Accuracy with L1 Loss	76%

Overall Accuracy   78%

Best Configured Model Involves Adam Optimizer, Batch Normalization, Relu Activation and Cross Entropy Loss.
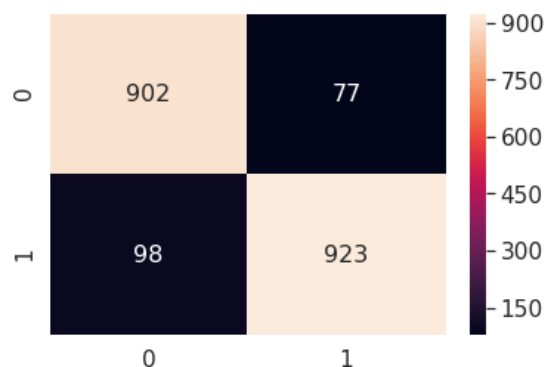
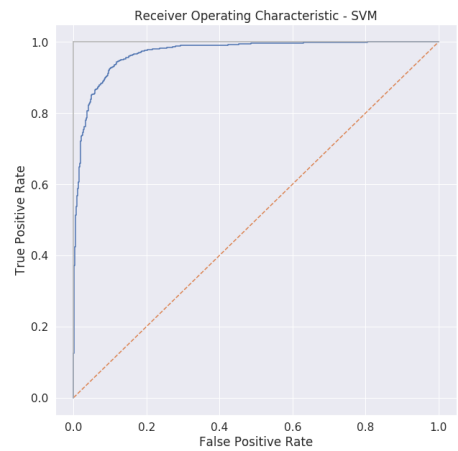Accuracy(with Triplet Loss)   75%

Ans 2)
a)

Results
1) Accuracy   91.25%

2) ROC Curve

Receiver Operating Characteristic - SVM

b)

1) Model without Fine Tuning Accuracy	79%

i) Class 1	83.68%
ii) Class 2	94.72%
iii) Class 3	68.34%
iv) Class 4	76.1%
v) Class 5	72.72%

2) Model with Fine Tuning Acuuracy	91.5%

i) Class 1	83.68%
ii) Class 2	94.72%
iii) Class 3	86.34%
iv) Class 4	94.1%
v) Class 5	85.72%

Confusion Matrix
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[[4184.  272.  298.  147.   99.]
 [ 144. 4736.   34.   66.   20.]
 [ 405.   92. 3417.  599.  487.]
 [ 217.  105.  489. 3805.  384.]
 [ 206.   57.  550.  551. 3636.]]
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