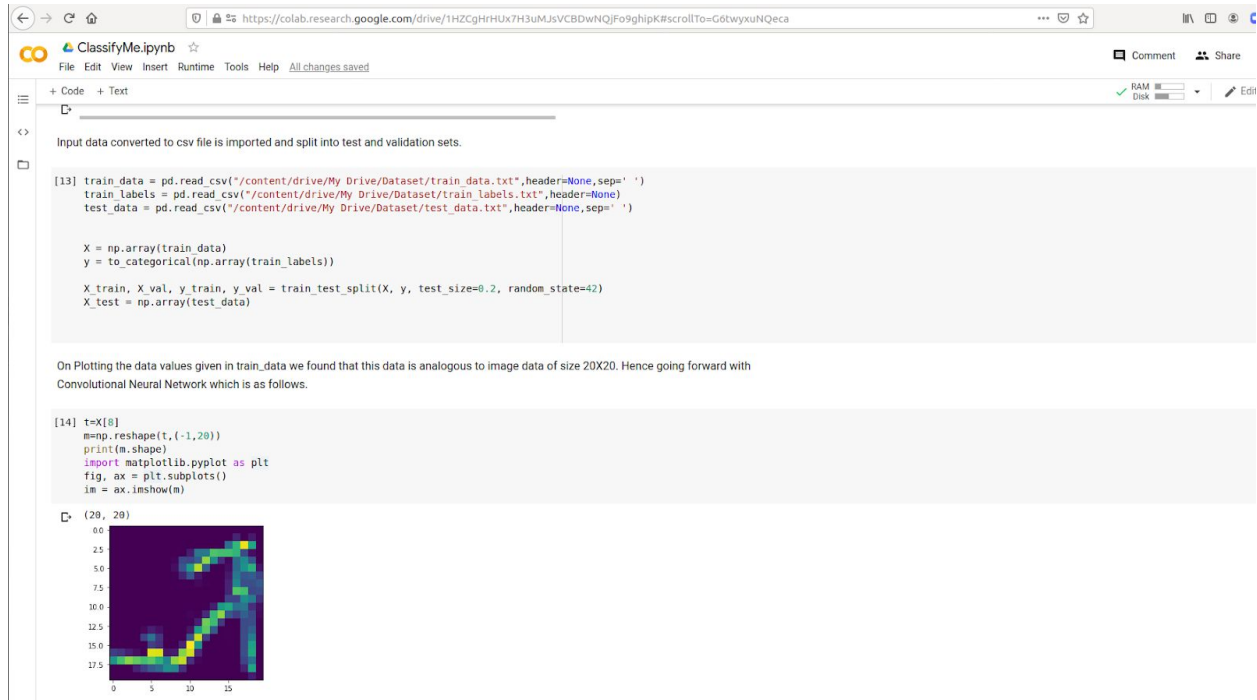
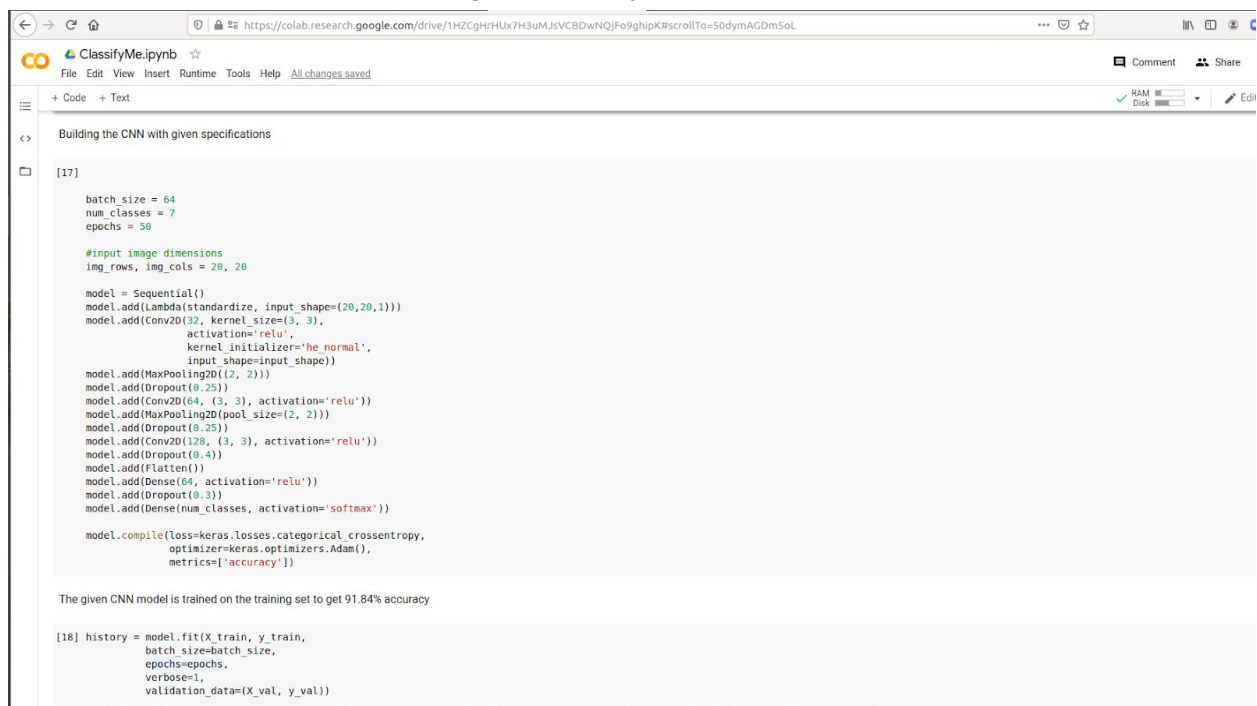


## Assignment 2-ClassifyMe

- The input features were reshaped to (20,20) and plotted which were analogous to an image of shape (20,20). Hence CNN approach was used.



- CNN model is compiled using different layers.



- Training accuracy achieved:91.42%

|             |             |         |      |            |                |                    |                    |                        |
|-------------|-------------|---------|------|------------|----------------|--------------------|--------------------|------------------------|
| Epoch 27/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2482 | - accuracy: 0.9057 | - val_loss: 0.2514 | - val_accuracy: 0.9044 |
| Epoch 28/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2500 | - accuracy: 0.9043 | - val_loss: 0.2492 | - val_accuracy: 0.9099 |
| Epoch 29/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2454 | - accuracy: 0.9075 | - val_loss: 0.2466 | - val_accuracy: 0.9111 |
| Epoch 30/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2414 | - accuracy: 0.9087 | - val_loss: 0.2464 | - val_accuracy: 0.9089 |
| Epoch 31/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2424 | - accuracy: 0.9088 | - val_loss: 0.2421 | - val_accuracy: 0.9108 |
| Epoch 32/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2413 | - accuracy: 0.9087 | - val_loss: 0.2469 | - val_accuracy: 0.9088 |
| Epoch 33/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2387 | - accuracy: 0.9092 | - val_loss: 0.2376 | - val_accuracy: 0.9107 |
| Epoch 34/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2430 | - accuracy: 0.9090 | - val_loss: 0.2431 | - val_accuracy: 0.9096 |
| Epoch 35/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2370 | - accuracy: 0.9097 | - val_loss: 0.2409 | - val_accuracy: 0.9117 |
| Epoch 36/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2332 | - accuracy: 0.9111 | - val_loss: 0.2386 | - val_accuracy: 0.9127 |
| Epoch 37/50 | 33600/33600 | [=====] | - 4s | 105us/step | - loss: 0.2373 | - accuracy: 0.9118 | - val_loss: 0.2396 | - val_accuracy: 0.9129 |
| Epoch 38/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2344 | - accuracy: 0.9110 | - val_loss: 0.2426 | - val_accuracy: 0.9108 |
| Epoch 39/50 | 33600/33600 | [=====] | - 4s | 105us/step | - loss: 0.2336 | - accuracy: 0.9112 | - val_loss: 0.2372 | - val_accuracy: 0.9130 |
| Epoch 40/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2348 | - accuracy: 0.9119 | - val_loss: 0.2336 | - val_accuracy: 0.9138 |
| Epoch 41/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2279 | - accuracy: 0.9129 | - val_loss: 0.2353 | - val_accuracy: 0.9132 |
| Epoch 42/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2268 | - accuracy: 0.9140 | - val_loss: 0.2436 | - val_accuracy: 0.9093 |
| Epoch 43/50 | 33600/33600 | [=====] | - 4s | 107us/step | - loss: 0.2262 | - accuracy: 0.9132 | - val_loss: 0.2430 | - val_accuracy: 0.9095 |
| Epoch 44/50 | 33600/33600 | [=====] | - 4s | 108us/step | - loss: 0.2277 | - accuracy: 0.9140 | - val_loss: 0.2354 | - val_accuracy: 0.9126 |
| Epoch 45/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2277 | - accuracy: 0.9132 | - val_loss: 0.2425 | - val_accuracy: 0.9138 |
| Epoch 46/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2247 | - accuracy: 0.9160 | - val_loss: 0.2343 | - val_accuracy: 0.9130 |
| Epoch 47/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2213 | - accuracy: 0.9149 | - val_loss: 0.2338 | - val_accuracy: 0.9121 |
| Epoch 48/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2189 | - accuracy: 0.9166 | - val_loss: 0.2390 | - val_accuracy: 0.9168 |
| Epoch 49/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2211 | - accuracy: 0.9153 | - val_loss: 0.2354 | - val_accuracy: 0.9162 |
| Epoch 50/50 | 33600/33600 | [=====] | - 4s | 106us/step | - loss: 0.2259 | - accuracy: 0.9142 | - val_loss: 0.2338 | - val_accuracy: 0.9148 |

- Plots of validation and training accuracy and loss against number of epochs

