Name:- Parth Patel and Gauri Jare
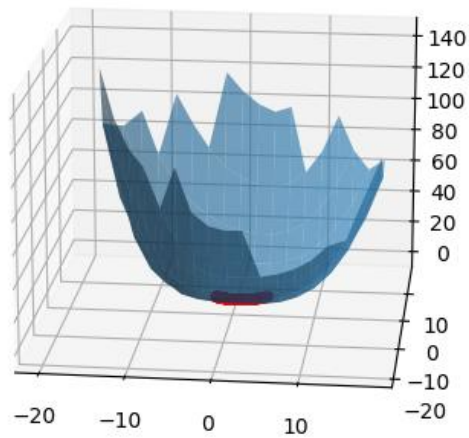
Group 14

1)

```
parthpatel@MacBook-Air-2 Assigment_4 % python3 homework4_template.py
2.4376728930450696e-06
Best HyperParametrs:
Number of Hidden Layers: 4
Number of Units in Each hidden layer: 40
Epoch: 250
Batch size: 16
Regularization term: 1
Learning Rate: 0.0001
Epoch 230: 0.27377408835100037
Epoch 231: 0.2802930005534065
Epoch 232: 0.2684313598778404
Epoch 233: 0.270713763644516
Epoch 234: 0.2722868429702577
Epoch 235: 0.27326068141683035
Epoch 236: 0.2677160374300286
Epoch 237: 0.26653102501288173
Epoch 238: 0.267041942786379
Epoch 239: 0.2729842359128024
Epoch 240: 0.269334015182195
Epoch 241: 0.26574988901867347
Epoch 242: 0.26465274055496985
Epoch 243: 0.26779863627932465
Epoch 244: 0.2703715886352714
Epoch 245: 0.2692776718747163
Epoch 246: 0.28345611307998436
Epoch 247: 0.27879037338057183
Epoch 248: 0.26864501025729876
Epoch 249: 0.2650540545209359
Train_FCE_Loss: 0.2650540545209359
Test_FCE_Loss: 0.35551545939381224
Correctly classified: 87.59 %
```

Qs2)
Plotting surface with weights and bias ranging from (-20,20) with a skip 2

Plotting surface with weight and bias in range of (-10,10) with skip of 0.5