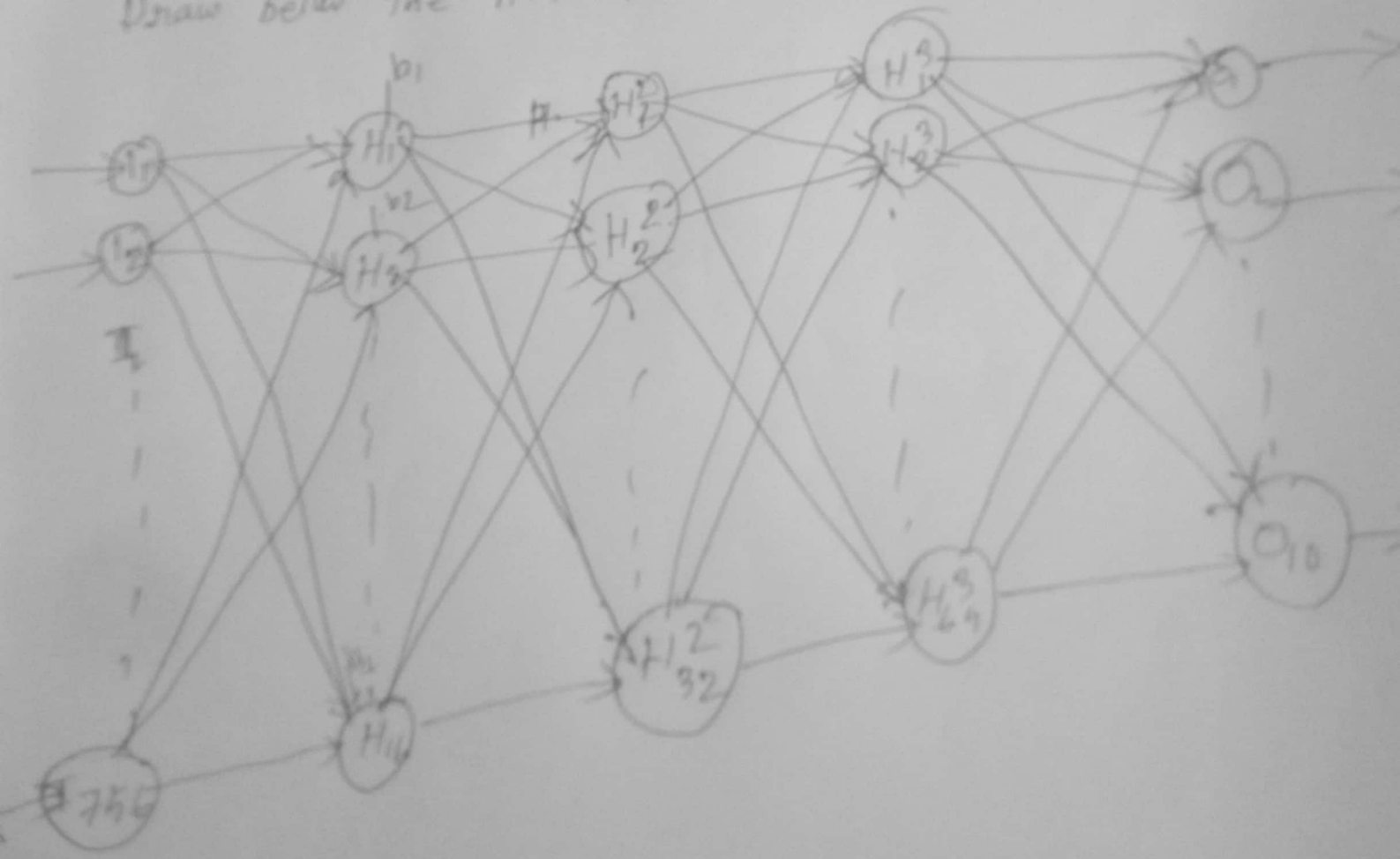
Assignment -1

Build a neural network using Tensorflow, Keras Layers

(i) size of input vector : 756
(ii) size of output vector: 10
(iii) 3 fully connected hidden layers → 16, 32, 64
(iv) Activation function of the neurons of the output layer : softmax and hidden layers → there different kinds of non linear function.

Draw below the network:



BuildModel.ipynb ☆

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```
from tensorflow.keras.layers import Input, Dense
from tensorflow.keras.models import Model

inputs = Input((756,),name= 'Input')
x1 = Dense(16, activation= 'relu', name = 'Hidden1')(inputs)
x2 = Dense(32, activation= 'tanh', name = 'Hidden2')(x1)
x3 = Dense(64, activation= 'sigmoid', name = 'Hidden3')(x2)
outputs = Dense(10,activation= 'softmax', name = 'Output')(x3)

model5 = Model(inputs, outputs)
model5.summary()
```

```
Model: "model"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 Input (InputLayer)          [(None, 756)]             0

 Hidden1 (Dense)             (None, 16)                12112

 Hidden2 (Dense)             (None, 32)                544

 Hidden3 (Dense)             (None, 64)                2112

 Output (Dense)              (None, 10)                650

=================================================================
Total params: 15,418
Trainable params: 15,418
Non-trainable params: 0
_________________________________________________________________
```

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