In [40]:
```
from keras.models import Sequential;
from keras.layers import Dense;
```

In [41]:
```
# creating a model

model=Sequential();
```

In [42]:
```
# creating a dense layers

layer_1=Dense(units=32,activation='relu',input_dim=30);
layer_2=Dense(units=16,activation='relu');
layer_3=Dense(units=1,activation='sigmoid');
```

In [43]:
```
# adding layers to model

model.add(layer_1);
model.add(layer_2);
model.add(layer_3);
```

In [44]:
```
# compiling our models (assining optimizer,cost or loss fn, and metrics)

model.compile(optimizer='adam',loss='binary_crossentropy',metrics=['accuracy']);
```

In [46]:
```
# loading the breast_cancer_Dataset data

from sklearn.datasets import load_breast_cancer;
from sklearn.model_selection import train_test_split;
from sklearn.preprocessing import StandardScaler

cancer = load_breast_cancer();
x_train, x_test, y_train, y_test = train_test_split(cancer.data,cancer.target, test_size=0.25, random_state=0);


scaler = StandardScaler();
x_train=scaler.fit_transform(x_train);
x_test=scaler.transform(x_test);
```

In [47]:
```
# fitting the data

model.fit(x_train,y_train,epochs=20,batch_size=50,validation_data=(x_test,y_test));
```

```
Epoch 1/20
9/9 [==============================] - 1s 26ms/step - loss: 0.6067 - accuracy: 0.6925 - val_loss: 0.4769 - val_accuracy: 0.8601
Epoch 2/20
9/9 [==============================] - 0s 7ms/step - loss: 0.4297 - accuracy: 0.8803 - val_loss: 0.3569 - val_accuracy: 0.8951
Epoch 3/20
9/9 [==============================] - 0s 13ms/step - loss: 0.3268 - accuracy: 0.9178 - val_loss: 0.2876 - val_accuracy: 0.9021
Epoch 4/20
9/9 [==============================] - 0s 9ms/step - loss: 0.2635 - accuracy: 0.9296 - val_loss: 0.2439 - val_accuracy: 0.9161
Epoch 5/20
9/9 [==============================] - 0s 11ms/step - loss: 0.2205 - accuracy: 0.9413 - val_loss: 0.2147 - val_accuracy: 0.9161
Epoch 6/20
9/9 [==============================] - 0s 12ms/step - loss: 0.1895 - accuracy: 0.9484 - val_loss: 0.1930 - val_accuracy: 0.9161
Epoch 7/20
9/9 [==============================] - 0s 9ms/step - loss: 0.1663 - accuracy: 0.9554 - val_loss: 0.1770 - val_accuracy: 0.9161
Epoch 8/20
9/9 [==============================] - 0s 9ms/step - loss: 0.1486 - accuracy: 0.9601 - val_loss: 0.1632 - val_accuracy: 0.9301
Epoch 9/20
9/9 [==============================] - 0s 8ms/step - loss: 0.1335 - accuracy: 0.9648 - val_loss: 0.1528 - val_accuracy: 0.9371
Epoch 10/20
9/9 [==============================] - 0s 7ms/step - loss: 0.1222 - accuracy: 0.9671 - val_loss: 0.1433 - val_accuracy: 0.9371
Epoch 11/20
9/9 [==============================] - 0s 10ms/step - loss: 0.1122 - accuracy: 0.9718 - val_loss: 0.1366 - val_accuracy: 0.9441
Epoch 12/20
9/9 [==============================] - 0s 7ms/step - loss: 0.1039 - accuracy: 0.9742 - val_loss: 0.1302 - val_accuracy: 0.9510
Epoch 13/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0971 - accuracy: 0.9765 - val_loss: 0.1248 - val_accuracy: 0.9510
Epoch 14/20
9/9 [==============================] - 0s 8ms/step - loss: 0.0910 - accuracy: 0.9789 - val_loss: 0.1205 - val_accuracy: 0.9510
Epoch 15/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0859 - accuracy: 0.9789 - val_loss: 0.1170 - val_accuracy: 0.9510
Epoch 16/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0815 - accuracy: 0.9836 - val_loss: 0.1142 - val_accuracy: 0.9510
Epoch 17/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0773 - accuracy: 0.9836 - val_loss: 0.1118 - val_accuracy: 0.9510
Epoch 18/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0738 - accuracy: 0.9836 - val_loss: 0.1094 - val_accuracy: 0.9580
Epoch 19/20
9/9 [==============================] - 0s 7ms/step - loss: 0.0706 - accuracy: 0.9859 - val_loss: 0.1069 - val_accuracy: 0.9580
Epoch 20/20
9/9 [==============================] - 0s 6ms/step - loss: 0.0679 - accuracy: 0.9859 - val_loss: 0.1052 - val_accuracy: 0.9580
```

In [51]:
```
# model accuracy

predictions=model.predict(x_test);
score=model.evaluate(x_test,y_test);
score
```

```
5/5 [==============================] - 0s 2ms/step
5/5 [==============================] - 0s 2ms/step - loss: 0.1052 - accuracy: 0.9580
```

Out[51]: [0.10517764836549759, 0.9580419659614563]