model = Sequential()

model.add(tf.keras.layers.Dense(units=11,activation ='relu', input\_shape = (len(imp\_features),) ))

#model.add(tf.keras.layers.Dropout(0.25))

model.add(tf.keras.layers.Dense(units=11,activation ='relu'))

model.add(tf.keras.layers.Dropout(0.25))

model.add(tf.keras.layers.Dense(units=6,activation ='relu'))

model.add(tf.keras.layers.Dropout(0.2))

model.add(tf.keras.layers.Dense(units=5,activation='softmax'))

model.compile(optimizer = Adam(), loss = 'categorical\_crossentropy',

              metrics = ['accuracy'])

history = model.fit(X\_train\_scaled,y\_train\_cat,validation\_split=0.25, epochs=225, verbose=1,batch\_size=30)

Chart

Description automatically generated

A picture containing shape

Description automatically generated

Accuracy Score for Sequential 0.5506756756756757

F1 Score for Sequential 0.5437561191667476

Graphical user interface, application

Description automatically generated

Model Generalization

Accuracy Score for Sequential 0.5254629629629629

F1 Score for Sequential 0.5176496159393014

Graphical user interface, application

Description automatically generated