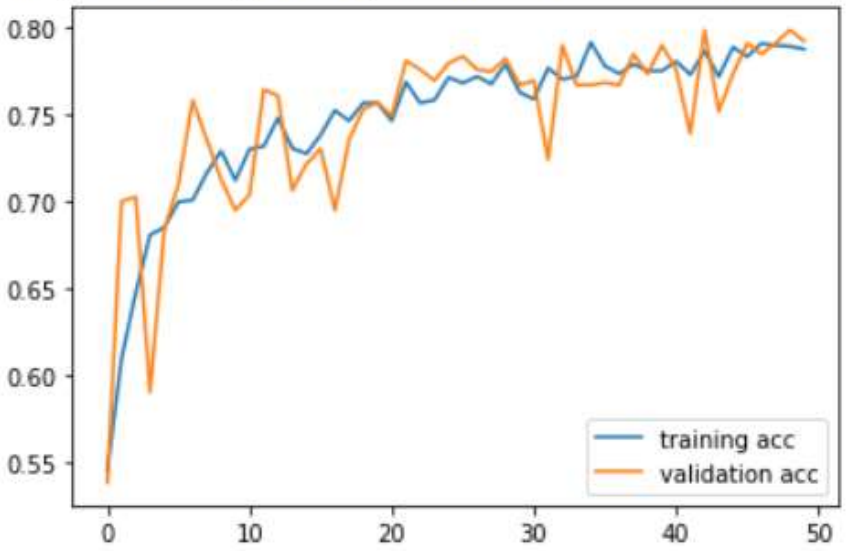
```
#3.2 Show the curves of the training and test accuracies
training_accs = history.history['accuracy']
val_accs = history.history['val_accuracy']

plt.plot(training_accs)
plt.plot(val_accs)
plt.legend(['training acc', 'validation acc'])
```

```
<matplotlib.legend.Legend at 0x7fa97f177bd0>
```




```
#3.3 test the model
y_train_pred_onehot = model.predict(X_train_1)
y_train_pred = np.argmax(y_train_pred_onehot, axis =1)

train_err = np.sum(y_train == y_train_pred)/y_train.shape[0]
print('training acc is {}%'.format(np.round(train_err*100, 3)))

y_test_pred_onehot= model.predict(X_test_1)
y_test_pred = np.argmax(y_test_pred_onehot, axis =1)
test_err = np.sum(y_test == y_test_pred)/y_test.shape[0]
print('test acc is {}%'.format(np.round(test_err*100, 3)))
```

```
training acc is 79.636%
test acc is 78.939%
```