인공지능 과제4 – LSTM기반 영어 품사 인식 시스템 개발

```python
pred = model.predict(x=x_test, verbose=1)   # batch 단위로 수행함 (default = 32)
                                            # batch 별 결과를 모아서 전체 결과를 반환함
pred_label = tf.math.argmax(pred, axis=2)
pred_label = pred_label.numpy()      # this is of 2-dimension (num_test_sents, msl)

num_test_sentences = y_test.shape[0]  # y_test has a shape of (num_test_sents, msl)

# 모델 평가
test_loss, test_accuracy = model.evaluate(x_test, y_test, verbose=1)
print("Test Accuracy:", test_accuracy)
```

```
240/240 [==============================] - 10s 11ms/step
240/240 [==============================] - 4s 18ms/step - loss: 0.1971 - acc: 0.9514
Test Accuracy: 0.9514239430427551
```

Test accuracy부분의 출력 결과입니다.

```python
# 10 문장에 대한 예측 결과 출력
for i in range(10):  # 처음 10 문장을 출력
    print(f"({i + 1}) ", end="")
    for j in range(leng_test[i]):
        word_index = x_test[i, j]
        pos_index = pred_label[i, j]
        correct_pos_index = y_test[i, j]

        word = i_Vocab[word_index]
        pos = i_dic_POS[pos_index]
        correct_pos = i_dic_POS[correct_pos_index]

        if pos == correct_pos:
            print(f"{word}/{pos} ", end="")
        else:
            print(f"{word}/{pos}<{correct_pos}> ", end="")

    print()
```

```
(1) Arthur/NNP M./NNP Goldberg/NNP said/VBD he/PRP extended/VBD his/PRP$ unsolicited/JJ tender/NN offer/NN of/IN $/$ 32/CD
(2) a/DT share/NN tender/NN offer/NN ,/, or/CC $/$ 154.3/CD million/CD ,/, for/IN Di/NNP Giorgio/NNP Corp./NNP to/TO Nov./NNP 1/CD ./.
(3) DIG/NNP Acquisition/NNP Corp./NNP ,/, the/DT New/NNP Jersey/NNP investor/NN 's/POS acquisition/NN vehicle/NN ,/, said/VBD that/IN as/IN of/IN the/DT close/NN of/IN business/NN y
(4) Including/VBG the/DT stake/NN DIG/NNP already/RB held/VBD ,/, DIG/NNP holds/VBZ a/DT total/NN of/IN about/RB 25/CD %/NN of/IN Di/NNP Giorgio/NNP 's/POS shares/NNS on/IN a/DT ful
(5) The/DT offer/NN ,/, which/WDT also/RB includes/VBZ common/JJ and/CC preferred/JJ<VBN> stock/NN purchase/NN rights/NNS ,/, was/VBD to/TO expire/VB last/JJ night/NN at/IN midnight
(6) The/DT new/JJ expiration/NN date/NN is/VBZ the/DT date/NN on/IN which/WDT
(7) DIG/NNP 's/POS financing/NN<VBG> commitments/NNS ,/, which/WDT total/VBP about/IN<RB> $/$ 240/CD million/CD ,/, are/VBP to/TO expire/VB ./.
(8) DIG/NNP is/VBZ a/DT unit/NN of/IN DIG/NNP Holding/NNP Corp./NNP ,/, a/DT unit/NN of/IN Rose/NNP Partners/NNP L.P/NNP ./.
(9) Mr./NNP Goldberg/NNP is/VBZ the/DT sole/JJ general/JJ partner/NN in/IN Rose/NNP Partners/NNP ./.
(10) In/IN August/NNP ,/, Di/NNP Giorgio/NNP ,/, a/DT San/NNP Francisco/NNP food/NN products/NNS and/CC building/NN materials/NNS marketing/NN and/CC distribution/NN company/NN ,/,
```

10 문장에 대한 화면 출력 결과입니다.