# Azure Cognitive Service - Computer Vision(OCR Test)

In [1]:

```
#cell1
import json, os, requests
from io import BytesIO
from PIL import Image, ImageDraw
from IPython.display import display
```

In [2]:

```
#cell2
# 생성한 Computer Vision 서비스의 키값
subscription_key = '729cbbdec96b42b58545a528122e8f90'
```

In [3]:

```
#cell3
# 생성한 Computer Vision 서비스의 Endpoint
endpoint = 'https://comp-vision-06.cognitiveservices.azure.com/'
```

In [4]:

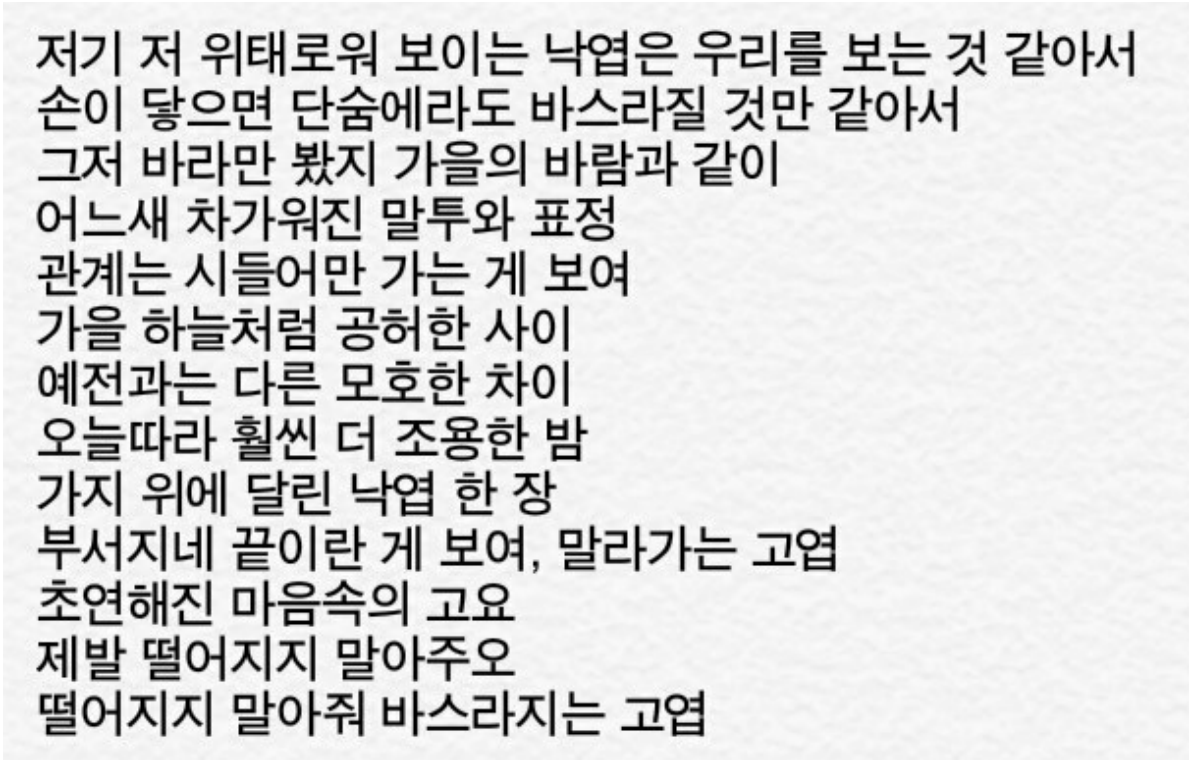
```
#cell4
# Computer Vision API Url
comp_vision_api_url = endpoint + '/vision/v3.1/ocr'
```

In [5]:

```
#cell5
# Sample Image Url
#image_url = 'https://hansdstorage1.blob.core.windows.net/comp-vision/ocr1.png?sv=2020-02-10&ss=bfqt
image_url = 'https://hanml2storage1.blob.core.windows.net/comp-vision/ocr1.png?sv=2020-02-10&ss=bfqt
```

In [6]:

```
#cell6
# Image Show
response = requests.get(image_url)
img = Image.open(BytesIO(response.content))
display(img)
```



In [7]:

```
#cell7
# Rest API Header에 key 정보 담기
headers = {
    'Ocp-Apim-Subscription-Key': subscription_key,
    'Content-Type': 'application/json; charset=utf8'
}
```

In [8]:

```
#cell8
# Computer Vision API Parameter
params = {
    'language': 'ko'
}
```

In [9]:

```
#cell9
# Computer Vision API 호출
response = requests.post(comp_vision_api_url, params=params,
                         headers=headers, json={"url": image_url})
```

In [10]:

```
#cell10
# Json 결과 Viewing
json_res = response.json()
#json_res_str = json.dumps(json_res, ensure_ascii=False)
print(json_res)
```

{'language': 'ko', 'textAngle': 0.0, 'orientation': 'Up', 'regions': [{'boundingBo
x': '17,14,559,360', 'lines': [{'boundingBox': '17,14,559,24', 'words': [{'boundingB
ox': '17,14,43,24', 'text': '저기'}, {'boundingBox': '70,14,20,24', 'text': '저'},
{'boundingBox': '101,14,89,24', 'text': '위태로워'}, {'boundingBox': '200,14,68,24',
'text': '보이는'}, {'boundingBox': '276,14,68,24', 'text': '낙엽은'}, {'boundingBo
x': '352,14,68,24', 'text': '우리를'}, {'boundingBox': '428,15,45,23', 'text': '보
는'}, {'boundingBox': '480,14,21,24', 'text': '것'}, {'boundingBox': '510,14,66,24',
'text': '같아서'}]}, {'boundingBox': '18,42,468,24', 'words': [{'boundingBox': '18,4
2,42,24', 'text': '손이'}, {'boundingBox': '71,42,66,24', 'text': '닿으면'}, {'bound
ingBox': '148,42,113,24', 'text': '단숨에라도'}, {'boundingBox': '269,42,89,24', 'te
xt': '바스라질'}, {'boundingBox': '367,42,46,24', 'text': '것만'}, {'boundingBox':
'420,42,66,24', 'text': '같아서'}]}, {'boundingBox': '18,70,376,24', 'words': [{'bou
ndingBox': '18,70,42,24', 'text': '그저'}, {'boundingBox': '71,70,68,24', 'text':
'바라만'}, {'boundingBox': '147,70,42,24', 'text': '봤지'}, {'boundingBox': '199,70,
67,24', 'text': '가을의'}, {'boundingBox': '276,70,68,24', 'text': '바람과'}, {'boun
dingBox': '351,70,43,24', 'text': '같이'}]}, {'boundingBox': '17,98,294,24', 'word
s': [{'boundingBox': '17,98,67,24', 'text': '어느새'}, {'boundingBox': '93,98,90,2
4', 'text': '차가워진'}, {'boundingBox': '193,98,68,24', 'text': '말투와'}, {'boundi
ngBox': '269,98,42,24', 'text': '표정'}]}, {'boundingBox': '17,126,301,24', 'words':
[{'boundingBox': '17,126,69,24', 'text': '관계는'}, {'boundingBox': '92,126,93,24',
'text': '시들어만'}, {'boundingBox': '192,126,46,24', 'text': '가는'}, {'boundingBo
x': '245,126,21,24', 'text': '게'}, {'boundingBox': '276,126,42,24', 'text': '보
여'}]}, {'boundingBox': '17,154,271,24', 'words': [{'boundingBox': '17,154,46,24',
'text': '가을'}, {'boundingBox': '71,154,88,24', 'text': '하늘처럼'}, {'boundingBo
x': '170,154,68,24', 'text': '공허한'}, {'boundingBox': '245,154,43,24', 'text': '사
이'}]}, {'boundingBox': '18,182,270,24', 'words': [{'boundingBox': '18,182,91,24',
'text': '예전과는'}, {'boundingBox': '118,182,44,24', 'text': '다른'}, {'boundingBo
x': '170,182,68,24', 'text': '모호한'}, {'boundingBox': '246,182,42,24', 'text': '차
이'}]}, {'boundingBox': '18,210,280,24', 'words': [{'boundingBox': '18,210,91,24',
'text': '오늘따라'}, {'boundingBox': '116,210,44,24', 'text': '훨씬'}, {'boundingBo
x': '170,210,19,24', 'text': '더'}, {'boundingBox': '200,210,68,24', 'text': '조용
한'}, {'boundingBox': '277,210,21,24', 'text': '밤'}]}, {'boundingBox': '17,238,265,
24', 'words': [{'boundingBox': '17,238,43,24', 'text': '가지'}, {'boundingBox': '71,
238,43,24', 'text': '위에'}, {'boundingBox': '125,238,42,24', 'text': '달린'}, {'bou
ndingBox': '177,238,42,24', 'text': '낙엽'}, {'boundingBox': '230,238,22,24', 'tex
t': '한'}, {'boundingBox': '260,238,22,24', 'text': '장'}]}, {'boundingBox': '18,26
6,406,25', 'words': [{'boundingBox': '18,266,89,24', 'text': '부서지네'}, {'bounding
Box': '117,266,68,24', 'text': '끝이란'}, {'boundingBox': '192,266,21,24', 'text':
'게'}, {'boundingBox': '223,266,50,25', 'text': '보여,'}, {'boundingBox': '283,266,9
1,24', 'text': '말라가는'}, {'boundingBox': '381,266,43,24', 'text': '고엽'}]}, {'bo
undingBox': '18,294,243,24', 'words': [{'boundingBox': '18,294,89,24', 'text': '초연
해진'}, {'boundingBox': '117,294,89,24', 'text': '마음속의'}, {'boundingBox': '216,2
96,45,19', 'text': '고요'}]}, {'boundingBox': '17,322,244,24', 'words': [{'boundingB
ox': '17,322,46,24', 'text': '제발'}, {'boundingBox': '72,322,87,24', 'text': '떨어
지지'}, {'boundingBox': '170,322,91,24', 'text': '말아주오'}]}, {'boundingBox': '18,
350,339,24', 'words': [{'boundingBox': '18,350,88,24', 'text': '떨어지지'}, {'boundi
ngBox': '117,350,67,24', 'text': '말아줘'}, {'boundingBox': '193,350,114,24', 'tex
t': '바스라지는'}, {'boundingBox': '315,350,42,24', 'text': '고엽'}]}]}]}

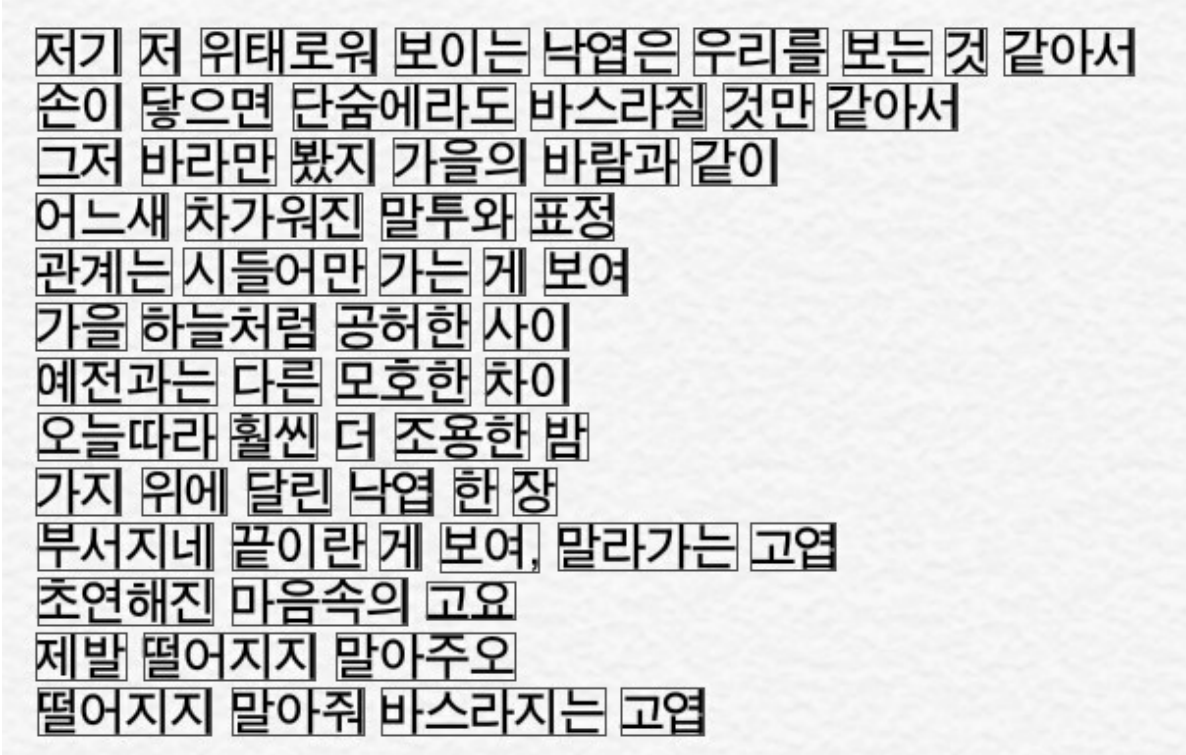
In [11]:

```
#cell11
# Computer Vision API 호출 결과 Bounding box 표현
# 인쇄체를 정확하게 찾을 수 있지만, 손글씨는 조금 어렵다.
draw = ImageDraw.Draw(img)

for r in json_res["regions"]:
    for l in r["lines"]:
        for w in l["words"]:
            box = w["boundingBox"]
            box_split = box.split(',')
            x1 = int(box_split[0])
            y1 = int(box_split[1])
            x2 = x1 + int(box_split[2])
            y2 = y1 + int(box_split[3])

            draw.rectangle((x1,y1,x2,y2), outline='red')

display(img)
```




In [ ]:

```
```