In [21]:

```
drinks
```

Out[21]:

	country	beer_servings	spirit_servings	wine_servings	total_litres_of_pure_alcohol	cont
0	Afghanistan	0	0	0	0.00	
1	Albania	89	132	54	4.90	
2	Algeria	25	0	14	0.70	
3	Andorra	245	138	312	12.40	
4	Angola	217	57	45	5.90	
...	...	...	...	...	...	
188	Venezuela	333	100	3	7.70	
189	Vietnam	111	2	1	2.00	
190	Yemen	6	0	0	0.10	
191	Zambia	32	19	4	2.50	
192	Zimbabwe	64	18	4	4.70	

193 rows × 6 columns

csv파일로 저장하기

In [23]:

```
drinks.to_csv("test.csv")
```

엑셀로 저장하기

In [24]:

```
drinks.to_excel('test.xlsx')
```

pickle로 저장하기

피클은 파이썬의 모든 객체를 파일로 저장할 수 있는 방법

In [25]:

```
drinks.to_pickle("test.pkl")
```

SQLite3 DB로 저장하기

데이터는 DB로 저장하는 것이 가장 좋은형태

connect함수를 이용하여 db에 접속 to_sql함수로 저장

In [28]:

```
import sqlite3

con=sqlite3.connect('test.db')
drinks.to_sql("table_name",con,if_exists="append",index=False)
con.close()
```

html 표로 만들기

데이터 프레임을 html table태그로 변환해줌.

In [29]:

```
drinks.to_html()
```

```
d>Wn      <td>6.30</td>Wn      <td>01</td>Wn    </tr>Wn    <tr>Wn      <th>15</th>
Wn      <td>Belarus</td>Wn      <td>142</td>Wn      <td>373</td>Wn      <td>42</td
>Wn      <td>14.40</td>Wn      <td>EU</td>Wn    </tr>Wn    <tr>Wn      <th>16</th>
Wn      <td>Belgium</td>Wn      <td>295</td>Wn      <td>84</td>Wn      <td>212</td
>Wn      <td>10.50</td>Wn      <td>EU</td>Wn    </tr>Wn    <tr>Wn      <th>17</th>
Wn      <td>Belize</td>Wn      <td>263</td>Wn      <td>114</td>Wn      <td>8</td>
Wn      <td>6.80</td>Wn      <td>0T</td>Wn    </tr>Wn    <tr>Wn      <th>18</th>Wn
<td>Benin</td>Wn      <td>34</td>Wn      <td>4</td>Wn      <td>13</td>Wn      <td>
1.10</td>Wn      <td>AF</td>Wn    </tr>Wn    <tr>Wn      <th>19</th>Wn      <td>Bh
utan</td>Wn      <td>23</td>Wn      <td>0</td>Wn      <td>0</td>Wn      <td>0.40</
td>Wn      <td>AS</td>Wn    </tr>Wn    <tr>Wn      <th>20</th>Wn      <td>Bolivia
</td>Wn      <td>167</td>Wn      <td>41</td>Wn      <td>8</td>Wn      <td>3.80</td
>Wn      <td>SA</td>Wn    </tr>Wn    <tr>Wn      <th>21</th>Wn      <td>Bosnia-Her
zegovina</td>Wn      <td>76</td>Wn      <td>173</td>Wn      <td>8</td>Wn      <td>
4.60</td>Wn      <td>EU</td>Wn    </tr>Wn    <tr>Wn      <th>22</th>Wn      <td>Bo
tswana</td>Wn      <td>173</td>Wn      <td>35</td>Wn      <td>35</td>Wn      <td>
5.40</td>Wn      <td>AF</td>Wn    </tr>Wn    <tr>Wn      <th>23</th>Wn      <td>Br
azil</td>Wn      <td>245</td>Wn      <td>145</td>Wn      <td>16</td>Wn      <td>7.
20</td>Wn      <td>SA</td>Wn    </tr>Wn    <tr>Wn      <th>24</th>Wn      <td>Brun
ei</td>Wn      <td>31</td>Wn      <td>2</td>Wn      <td>1</td>Wn      <td>0.60</td
```

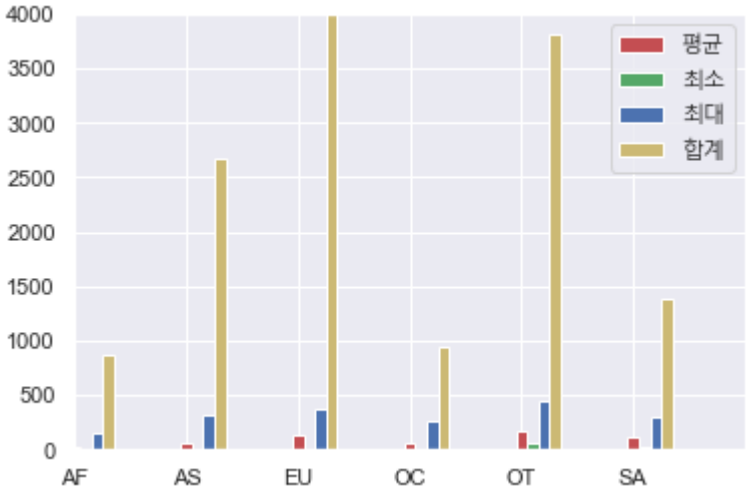
한글을 그래프에서 출력하기

In [32]:

```
result=drinks.groupby('continent').spirit_servings.agg(['mean','min','max','sum'])
result
n_groups=len(result.index)
means=result['mean'].tolist()
mins=result['min'].tolist()
maxs=result['max'].tolist()
sums=result['sum'].tolist()
index=np.arange(n_groups)
bar_width=0.1

rects1=plt.bar(index,means,bar_width,color='r',label='평균')
rects2=plt.bar(index+bar_width,mins,bar_width,color='g',label='최소')
rects3=plt.bar(index+bar_width*2,maxs,bar_width,color='b',label='최대')
rects3=plt.bar(index+bar_width*3,sums,bar_width,color='y',label='합계')

plt.rc("font", family="Malgun Gothic")
#한글의 경우 기본적으로 할당된 폰트가 한글을 지원하는 폰트가 아니기 때문에
#한글을 지원해 주는 폰트로 설정하면 된다.
plt.xticks(index,result.index.tolist())
plt.axis([0,6,0,4000])#axis([xmin,xmax,ymin,ymax])
plt.legend() ##범례표시(범례 : 참고사항)
plt.show()
```



In [ ]: