In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import datetime as dt
```

In [2]:
```
results=pd.read_csv(r"C:\Users\berid\OneDrive\Desktop\mydata\international football\results.csv")
shootouts=pd.read_csv(r"C:\Users\berid\OneDrive\Desktop\mydata\international football\shootouts.csv")
```

In [3]:
```
df=results.merge(shootouts,how="left",on=["date","home_team","away_team"])
```

In [4]:
```
df.rename(columns={"winner":"penalty_winner"},inplace=True)
```

In [5]:
```
df["date"]=pd.to_datetime(df["date"])
```

In [6]:
```
df
```

Out[6]:

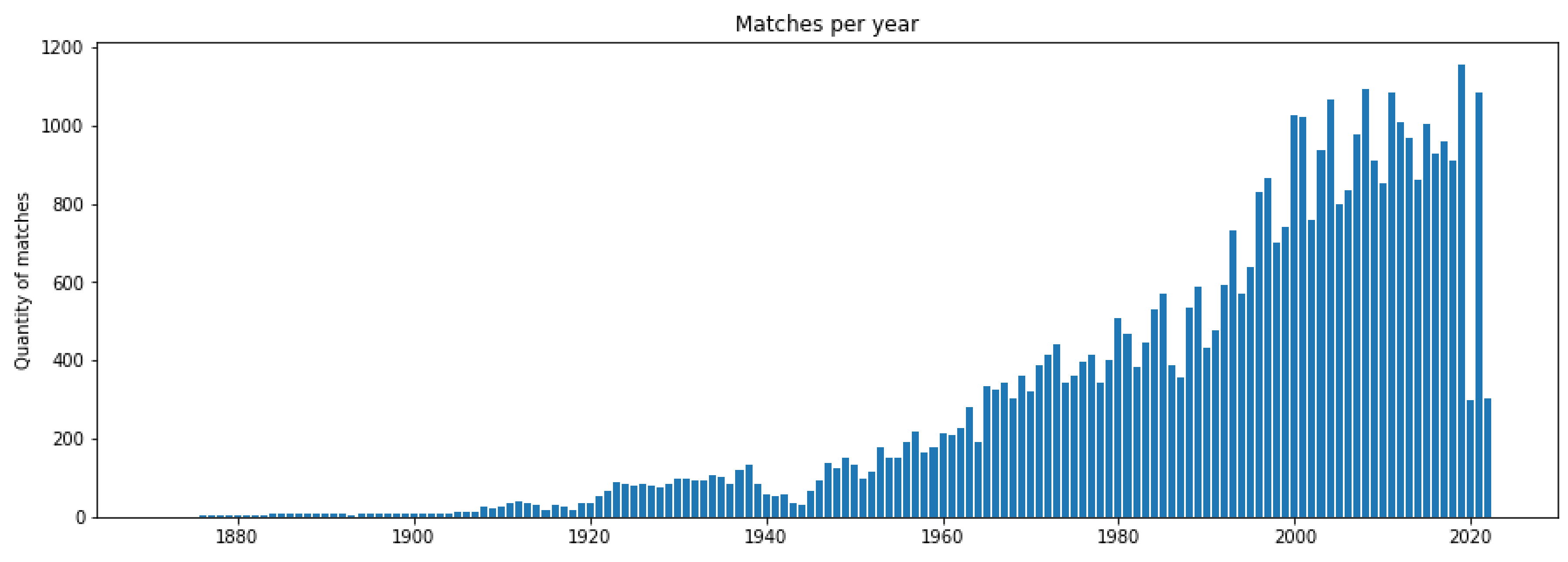
	date	home_team	away_team	home_score	away_score	tournament	city	country	neutral	penalty_winner
0	1872-11-30	Scotland	England	0	0	Friendly	Glasgow	Scotland	False	NaN
1	1873-03-08	England	Scotland	4	2	Friendly	London	England	False	NaN
2	1874-03-07	Scotland	England	2	1	Friendly	Glasgow	Scotland	False	NaN
3	1875-03-06	England	Scotland	2	2	Friendly	London	England	False	NaN
4	1876-03-04	Scotland	England	3	0	Friendly	Glasgow	Scotland	False	NaN
...	...	...	...	...	...	...	...	...	...	...
43446	2022-05-28	India	Jordan	0	2	Friendly	Doha	Qatar	True	NaN
43447	2022-05-28	Mexico	Nigeria	2	1	Friendly	Arlington	United States	True	NaN
43448	2022-05-29	United Arab Emirates	Gambia	1	1	Friendly	Dubai	United Arab Emirates	False	NaN
43449	2022-05-30	Ethiopia	Lesotho	1	1	Friendly	Adama	Ethiopia	False	NaN
43450	2022-05-31	Thailand	Bahrain	1	2	Friendly	Pathum Thani	Thailand	False	NaN

43451 rows × 10 columns

Plot quantity of matches per year since 1872

In [7]:
```
df["year"]=df.date.dt.year
```

In [8]:
```
grouped=df.groupby("year")["date"].count().reset_index().sort_values("year")

plt.figure(figsize=(15,5))
plt.bar(grouped.year,grouped.date)
plt.title("Matches per year")
plt.ylabel("Quantity of matches")
plt.show()
```



Find 50 team that have played the most internation matches since 1872

In [9]:
```
home=df.groupby("home_team")["home_team"].count().reset_index(name="home_matches")
away=df.groupby("away_team")["away_team"].count().reset_index(name="away_matches")
merged=home.merge(away,left_on="home_team",right_on="away_team")[["home_team","home_matches","away_matches"]]
merged["matches"]=merged["home_matches"]+merged["away_matches"]
result=merged.rename(columns={"home_team":"team"})[["team","matches"]].sort_values("matches",ascending=False)
result
```

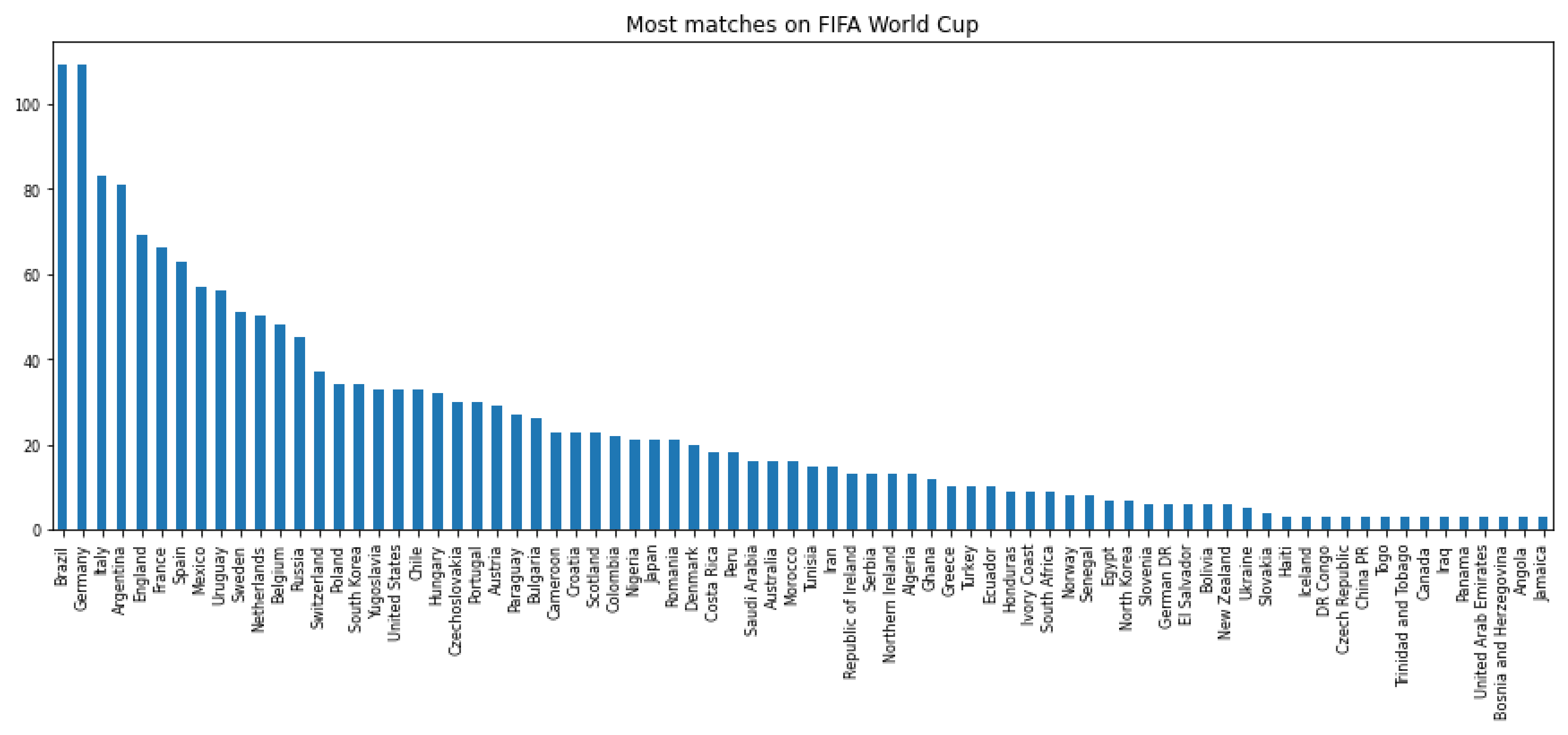
Out[9]:

	team	matches
249	Sweden	1045
79	England	1038
35	Brazil	1011
12	Argentina	1007
98	Germany	976
...	...	...
218	Saint Helena	4
211	Romani people	3
200	Parishes of Jersey	3
158	Manchukuo	3
50	Central Spain	2

299 rows × 2 columns

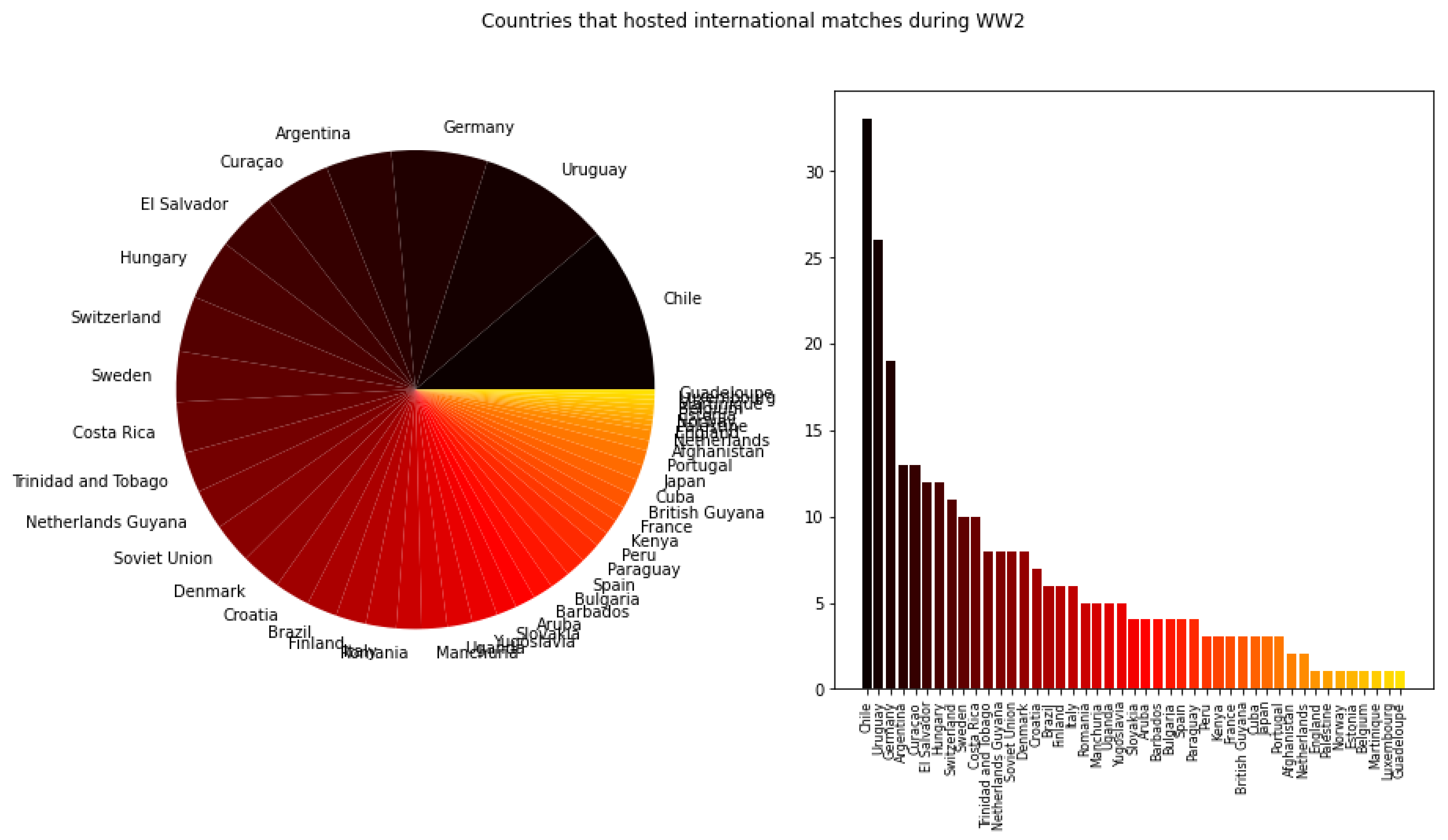
find teams that have played the most matches on World Cup

In [10]:
```python
home=df[df.tournament=="FIFA World Cup"].groupby("home_team")["home_team"].count().reset_index(name="home_matches")
away=df[df.tournament=="FIFA World Cup"].groupby("away_team")["away_team"].count().reset_index(name="away_matches")
merged=home.merge(away,left_on="home_team",right_on="away_team")[["home_team","home_matches","away_matches"]]
merged["matches"]=merged["home_matches"]+merged["away_matches"]
result=merged.rename(columns={"home_team":"team"})[["team","matches"]].sort_values("matches",ascending=False)

result.plot(kind="bar",figsize=(15,5),xlabel="",x="team",y="matches",fontsize=8,legend=False)
plt.title("Most matches on FIFA World Cup")
plt.show()
```



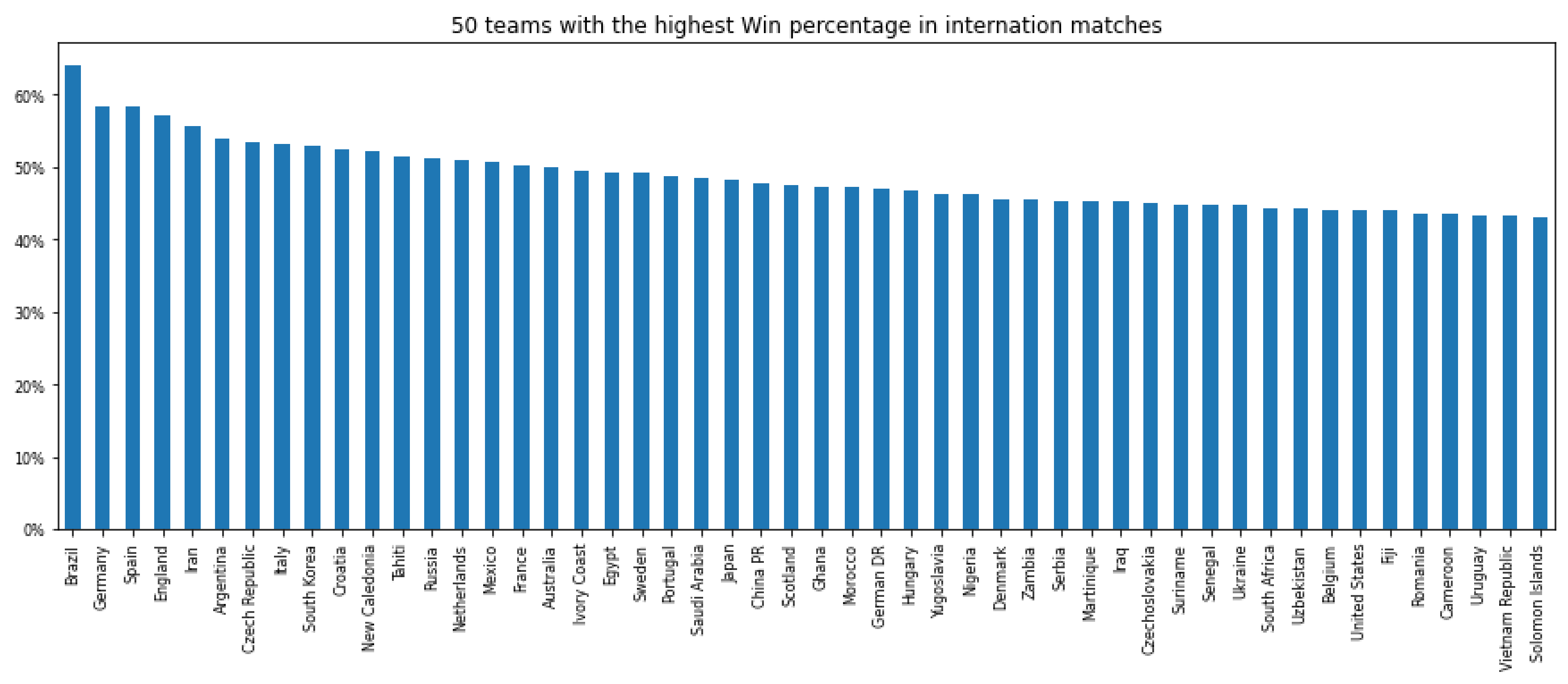
Which countires and how many times have hosted international matches during WW2

In [36]:
```python
filtered=df[(df.date>="1939-09-01")&(df.date<"1945-09-02")]
grouped=filtered.groupby("country")["country"].count().reset_index(name="count").sort_values("count",ascending=False)

cmap=plt.get_cmap("hot")
colors=list(cmap(np.linspace(0,0.7,grouped.country.nunique())))

fig,axes=plt.subplots(1,2,figsize=(15,7))

plt.subplot(1,2,1)
plt.pie(grouped["count"],colors=colors,labels=grouped.country)

plt.subplot(1,2,2)
plt.bar(grouped["country"],grouped["count"],color=colors)
plt.xticks(rotation=90,size=8)

plt.suptitle("Countries that hosted international matches during WW2")

plt.show()
```



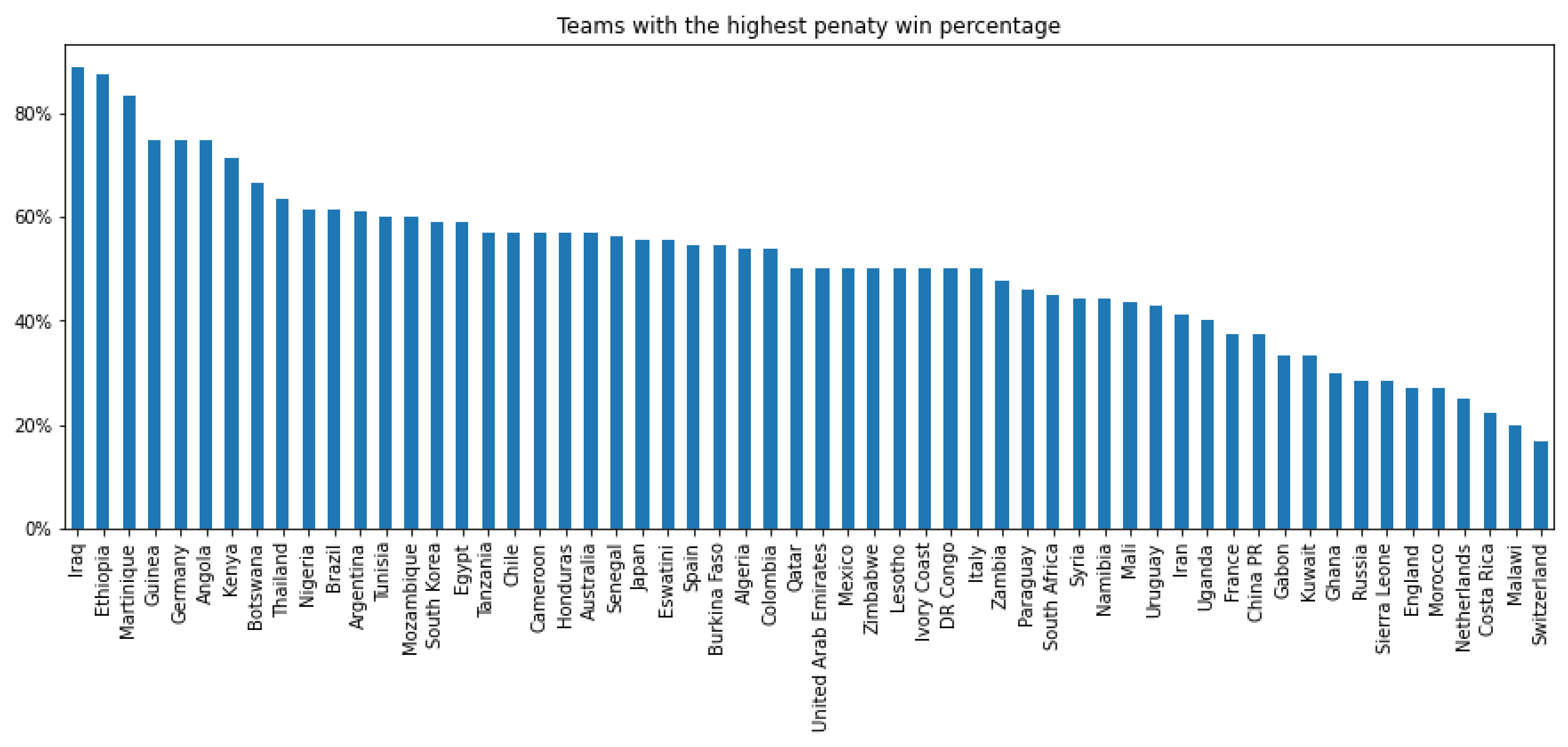
Which team has the highest win percentage in international matches having they have played more than 100 matches

In [70]:
```
home_matches=df.groupby("home_team")["home_team"].count().reset_index(name="home_matches")
home_wins=df[df.home_score>df.away_score].groupby("home_team")["home_team"].count().reset_index(name="home_wins")

away_matches=df.groupby("away_team")["away_team"].count().reset_index(name="away_matches")
away_wins=df[df.home_score<df.away_score].groupby("away_team")["away_team"].count().reset_index(name="away_wins")

merged1=home_matches.merge(home_wins,on="home_team",how="left")
merged2=away_matches.merge(away_wins,on="away_team",how="left")
merged=merged1.merge(merged2,left_on="home_team",right_on="away_team")

merged[["home_matches","away_matches","home_wins","away_wins"]]=merged[["home_matches","away_matches","home_wins","away_wins"]].fillna(0)

merged["matches"]=merged.home_matches+merged.away_matches
merged["wins"]=merged.home_wins+merged.away_wins
merged["win_percentage"]=(merged.wins/merged.matches*100).round(2)
merged.rename(columns={"home_team":"team"},inplace=True)
result=merged[["team","matches","wins","win_percentage"]]
result=result.sort_values("win_percentage",ascending=False)
result=result[result.matches>100]

import matplotlib.ticker as mtick
result.head(50).plot(kind="bar",x="team",y="win_percentage",figsize=(15,5),fontsize=8,legend=False,xlabel="")
plt.title("50 teams with the highest Win percentage in internation matches")
plt.gca().yaxis.set_major_formatter(mtick.PercentFormatter(100))
plt.show()
```



Which team has the highest win percentage in penalties, on condition that they have played more than 5

In [77]:
```
filtered=df[df.penalty_winner.isna()==False]

penalties_played1=filtered.groupby("home_team")["home_team"].count().reset_index(name="penalties_played1")
penalties_played2=filtered.groupby("away_team")["away_team"].count().reset_index(name="penalties_played2")

merged=penalties_played1.merge(penalties_played2,left_on="home_team",right_on="away_team",how="outer")

merged[["penalties_played1","penalties_played2"]]=merged[["penalties_played1","penalties_played2"]].fillna(0)
merged["penalties_played"]=merged.penalties_played1+merged.penalties_played2
merged["team"]=[h if h is None else a for h,a in zip(merged.home_team,merged.away_team)]
merged=merged[["team","penalties_played"]]

wins=filtered.groupby("penalty_winner")["penalty_winner"].count().reset_index(name="penalties_won")
result=merged.merge(wins,left_on="team",right_on="penalty_winner",how="left")

result["win_percentage"]=(result.penalties_won/merged.penalties_played*100).round(2)
result=result[result.penalties_played>5]
result=result.sort_values("win_percentage",ascending=False)
result.dropna(subset=["team"],inplace=True)

import matplotlib.ticker as mtcik
result.plot(kind="bar",figsize=(15,5),x="team",y="win_percentage",xlabel="",legend=False)
plt.title("Teams with the highest penaty win percentage")
plt.gca().yaxis.set_major_formatter(mtick.PercentFormatter(100))
plt.show()
```



Longest consecutive home win chain for every team

In [131]:
```
# is the row a win?
win = ndf['home_score'].gt(ndf['away_score'])

# subselect wins, groupby consecutive wins, get size, get max size
(win[win]
 .groupby([ndf['home_team'], (~win).cumsum()])
 .size()
 .groupby(level='home_team').max()
)
```

Out[131]:
```
home_team
Abkhazia           4
Afghanistan        6
Albania            5
Algeria            9
American Samoa     1
                  ..
Yugoslavia        11
Zambia            10
Zanzibar           2
Zimbabwe           6
Åland Islands      4
Length: 289, dtype: int64
```

or

In [127]:
```
data={}
ndf=df.sort_values(['home_team',"date"])

for team in sorted(df.home_team.unique()):
    ndf[ndf.home_team==team]
    i=ndf[ndf.home_team==team]["home_score"]>ndf[ndf.home_team==team]["away_score"]
    j = i.ne(i.shift()).cumsum()
    freeze = j[i].value_counts().max()
    data[str(team)]=freeze
data
```

Out[127]:
```
{'Abkhazia': 4,
 'Afghanistan': 6,
 'Albania': 5,
 'Alderney': nan,
 'Algeria': 9,
 'American Samoa': 1,
 'Andalusia': 3,
 'Andorra': 2,
 'Angola': 6,
 'Anguilla': 1,
 'Antigua and Barbuda': 4,
 'Arameans Suryoye': 1,
 'Argentina': 16,
 'Armenia': 3,
 'Artsakh': 2,
 'Aruba': 3,
 'Australia': 11,
 'Austria': 7,
 'Azerbaijan': 4,
 'Bahamas': 3,
 'Bahrain': 7,
 'Bangladesh': 5,
 'Barawa': 1,
 'Barbados': 5,
 'Basque Country': 6,
 'Belarus': 4,
 'Belgium': 8,
 'Belize': 5,
 'Benin': 6,
 'Bermuda': 7,
 'Bhutan': 2,
 'Bolivia': 7,
 'Bonaire': 1,
 'Bosnia and Herzegovina': 4,
 'Botswana': 6,
 'Brazil': 21,
 'British Virgin Islands': 2,
 'Brittany': 2,
 'Brunei': 2,
 'Bulgaria': 14,
 'Burkina Faso': 10,
 'Burundi': 3,
 'Cambodia': 4,
 'Cameroon': 13,
 'Canada': 8,
 'Canary Islands': 2,
 'Cape Verde': 7,
 'Cascadia': 2,
 'Catalonia': 4,
 'Cayman Islands': 3,
 'Central African Republic': 3,
 'Central Spain': 1,
 'Chad': 2,
 'Chagos Islands': nan,
 'Chameria': 1,
 'Chile': 9,
 'China PR': 14,
 'Colombia': 10,
 'Comoros': 2,
 'Congo': 6,
 'Cook Islands': 2,
 'Corsica': 2,
 'Costa Rica': 19,
 'County of Nice': 1,
 'Croatia': 9,
 'Cuba': 6,
 'Curaçao': 10,
 'Cyprus': 4,
 'Czech Republic': 13,
 'Czechoslovakia': 7,
 'DR Congo': 7,
 'Darfur': nan,
 'Denmark': 9,
 'Djibouti': 1,
 'Dominica': 3,
 'Dominican Republic': 4,
 'Ecuador': 11,
 'Egypt': 10,
 'El Salvador': 8,
 'Ellan Vannin': 2,
 'England': 11,
 'Equatorial Guinea': 6,
 'Eritrea': 2,
 'Estonia': 4,
 'Eswatini': 4,
 'Ethiopia': 7,
 'Falkland Islands': 2,
 'Faroe Islands': 5,
 'Felvidék': 1,
 'Fiji': 7,
 'Finland': 8,
 'France': 14,
 'French Guiana': 4,
 'Frøya': 2,
 'Gabon': 5,
 'Galicia': 1,
 'Gambia': 3,
 'Georgia': 5,
 'German DR': 9,
 'Germany': 15,
 'Ghana': 11,
 'Gibraltar': 4,
 'Gotland': 2,
 'Gozo': 1,
 'Greece': 6,
 'Greenland': 3,
 'Grenada': 6,
 'Guadeloupe': 6,
 'Guam': 3,
 'Guatemala': 12,
 'Guernsey': 5,
 'Guinea': 10,
 'Guinea-Bissau': 4,
 'Guyana': 9,
 'Găgăuzia': nan,
 'Haiti': 7,
 'Hitra': 1,
 'Honduras': 14,
 'Hong Kong': 6,
 'Hungary': 12,
 'Iceland': 4,
 'India': 5,
 'Indonesia': 11,
 'Iran': 12,
 'Iraq': 7,
 'Iraqi Kurdistan': 4,
 'Isle of Man': 5,
 'Isle of Wight': 9,
 'Israel': 6,
 'Italy': 9,
 'Ivory Coast': 10,
 'Jamaica': 9,
 'Japan': 8,
 'Jersey': 11,
 'Jordan': 8,
 'Kabylia': nan,
 'Kazakhstan': 5,
 'Kenya': 8,
 'Kernow': 2,
 'Kiribati': nan,
 'Kosovo': 6,
 'Kuwait': 8,
 'Kyrgyzstan': 5,
 'Kárpátalja': 3,
 'Laos': 4,
 'Latvia': 5,
 'Lebanon': 4,
 'Lesotho': 3,
 'Liberia': 5,
 'Libya': 8,
 'Liechtenstein': 1,
 'Lithuania': 4,
 'Luxembourg': 3,
 'Macau': 2,
 'Madagascar': 6,
 'Madrid': nan,
 'Malawi': 6,
 'Malaysia': 9,
 'Maldives': 4,
 'Mali': 9,
 'Malta': 3,
 'Manchukuo': nan,
 'Martinique': 13,
 'Matabeleland': 1,
 'Mauritania': 4,
 'Mauritius': 13,
 'Mayotte': 1,
 'Menorca': 5,
 'Mexico': 9,
 'Micronesia': 1,
 'Moldova': 4,
 'Monaco': 2,
 'Mongolia': 3,
 'Montenegro': 5,
 'Montserrat': 2,
 'Morocco': 11,
 'Mozambique': 7,
 'Myanmar': 8,
 'Namibia': 5,
 'Nepal': 3,
 'Netherlands': 10,
 'New Caledonia': 8,
 'New Zealand': 7,
 'Nicaragua': 4,
 'Niger': 3,
 'Nigeria': 11,
 'Niue': nan,
 'North Korea': 11,
 'North Macedonia': 6,
 'North Vietnam': 2,
 'Northern Cyprus': 9,
 'Northern Ireland': 5,
 'Northern Mariana Islands': 1,
 'Norway': 7,
 'Occitania': 3,
 'Oman': 7,
 'Orkney': 2,
 'Padania': 8,
 'Pakistan': 3,
 'Palau': nan,
 'Palestine': 4,
 'Panama': 5,
 'Panjab': 1,
 'Papua New Guinea': 3,
 'Paraguay': 8,
 'Parishes of Jersey': 2,
 'Peru': 10,
 'Philippines': 6,
 'Poland': 9,
 'Portugal': 13,
 'Provence': 1,
 'Puerto Rico': 3,
 'Qatar': 7,
 'Raetia': 1,
 'Republic of Ireland': 7,
 'Republic of St. Pauli': 1,
 'Rhodes': 4,
 'Romani people': nan,
 'Romania': 12,
 'Russia': 12,
 'Rwanda': 5,
 'Réunion': 3,
 'Saare County': 1,
 'Saarland': nan,
 'Saint Helena': nan,
 'Saint Kitts and Nevis': 5,
 'Saint Lucia': 4,
 'Saint Martin': 6,
 'Saint Pierre and Miquelon': nan,
 'Saint Vincent and the Grenadines': 4,
 'Samoa': 3,
 'San Marino': 1,
 'Sark': nan,
 'Saudi Arabia': 12,
 'Scotland': 12,
 'Senegal': 8,
 'Serbia': 6,
 'Seychelles': 2,
 'Shetland': 4,
 'Sierra Leone': 11,
 'Silesia': 2,
 'Singapore': 5,
 'Sint Maarten': 4,
 'Slovakia': 7,
 'Slovenia': 5,
 'Solomon Islands': 8,
 'Somalia': 2,
 'Somaliland': 1,
 'South Africa': 7,
 'South Korea': 9,
 'South Ossetia': 1,
 'South Sudan': 2,
 'Spain': 12,
 'Sri Lanka': 4,
 'Sudan': 7,
 'Suriname': 7,
 'Sweden': 11,
 'Switzerland': 6,
 'Syria': 9,
 'Székely Land': 3,
 'Sápmi': 2,
 'São Tomé and Príncipe': 2,
 'Tahiti': 9,
 'Taiwan': 7,
 'Tajikistan': 4,
 'Tamil Eelam': 1,
 'Tanzania': 6,
 'Thailand': 10,
 'Tibet': nan,
 'Timor-Leste': 2,
 'Togo': 6,
 'Tonga': 3,
 'Trinidad and Tobago': 9,
 'Tunisia': 8,
 'Turkey': 7,
 'Turkmenistan': 7,
 'Turks and Caicos Islands': 1,
 'Tuvalu': 3,
 'Uganda': 11,
 'Ukraine': 9,
 'United Arab Emirates': 11,
 'United Koreans in Japan': 1,
 'United States': 16,
 'United States Virgin Islands': 1,
 'Uruguay': 8,
 'Uzbekistan': 8,
 'Vanuatu': 3,
 'Vatican City': nan,
 'Venezuela': 7,
 'Vietnam': 4,
 'Vietnam Republic': 4,
 'Wales': 6,
 'Wallis Islands and Futuna': 1,
 'Western Armenia': 1,
 'Western Australia': 1,
 'Western Isles': 5,
 'Western Sahara': 2,
 'Yemen': 5,
 'Yemen DPR': 1,
 'Ynys Môn': 6,
 'Yorkshire': 4,
 'Yugoslavia': 11,
 'Zambia': 10,
 'Zanzibar': 2,
 'Zimbabwe': 6,
 'Åland Islands': 4}
```

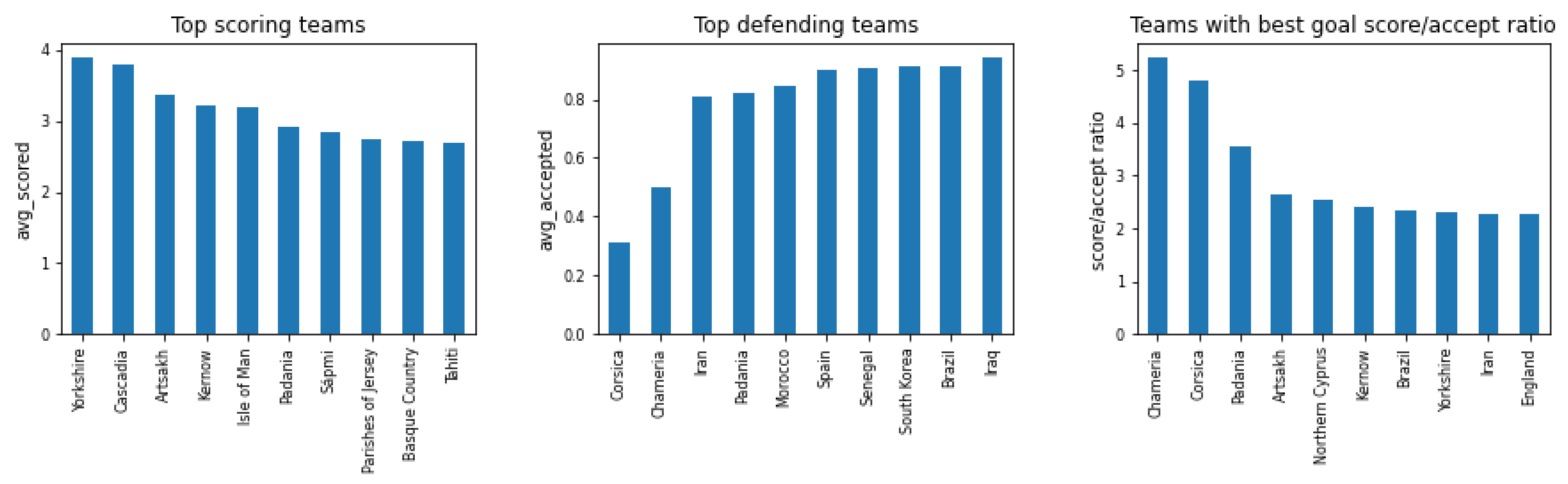
which team score most goals per match and which team accepts the least. Which teams have the best ratio of scored vs accepted

In [79]:

```
home=df.groupby("home_team").agg({"home_score":"mean","away_score":"mean"}).reset_index()
home.rename(columns={"home_team":"team","home_score":"home_scored","away_score":"home_accepted"},inplace=True)
away=df.groupby("away_team").agg({"away_score":"mean","home_score":"mean"}).reset_index()
away.rename(columns={"away_team":"team","away_score":"away_scored","home_score":"away_accepted"},inplace=True)

merged=home.merge(away,on="team")

merged["avg_scored"]=(merged.home_scored+merged.away_scored)/2
merged["avg_accepted"]=(merged.home_accepted+merged.away_accepted)/2
merged["ratio"]=(merged.avg_scored/merged.avg_accepted).round(2)
merged=merged[["team","avg_scored","avg_accepted","ratio"]]
```

In [80]:

```
fig,(ax1,ax2,ax3)=plt.subplots(1,3,figsize=(15,3))

sorted=merged.sort_values("avg_scored",ascending=False).head(10)
sorted.plot(kind="bar",ax=ax1,x="team",y="avg_scored",title="Top scoring teams",legend=False,xlabel="",ylabel="avg_scored",fontsize=8)

sorted=merged.sort_values("avg_accepted",ascending=True).head(10)
sorted.plot(kind="bar",ax=ax2,x="team",y="avg_accepted",title="Top defending teams",legend=False,xlabel="",ylabel="avg_accepted",fontsize=8)

sorted=merged.sort_values("ratio",ascending=False).head(10)
sorted.plot(kind="bar",ax=ax3,x="team",y="ratio",title="Teams with best goal score/accept ratio",legend=False,xlabel="",ylabel="score/accept ratio",fontsize=8)

plt.subplots_adjust(wspace=0.3)
plt.show()
```



5 Matches with the highest goal balance for one team

In [101]:
```
df["goal_balance"]=(df.home_score-df.away_score).abs()
df.sort_values("goal_balance",ascending=False)[:5]
```

Out[101]:

	date	home_team	away_team	home_score	away_score	tournament	city	country	neutral	penalty_winner	year	goal_balance
23965	2001-04-11	Australia	American Samoa	31	0	FIFA World Cup qualification	Coffs Harbour	Australia	False	NaN	2001	31
8009	1971-09-13	Tahiti	Cook Islands	30	0	South Pacific Games	Papeete	French Polynesia	False	NaN	1971	30
11110	1979-08-30	Fiji	Kiribati	24	0	South Pacific Games	Nausori	Fiji	False	NaN	1979	24
23962	2001-04-09	Australia	Tonga	22	0	FIFA World Cup qualification	Coffs Harbour	Australia	False	NaN	2001	22
27542	2005-03-11	Guam	North Korea	0	21	EAFF Championship	Taipei	Taiwan	True	NaN	2005	21

Which teams have played the most matches against each other

In [53]:
```
grouped=df[['home_team', 'away_team']].apply(frozenset, axis=1).value_counts().reset_index()
grouped.columns=["pair_of_teams","number_of_matches_between"]
grouped
```

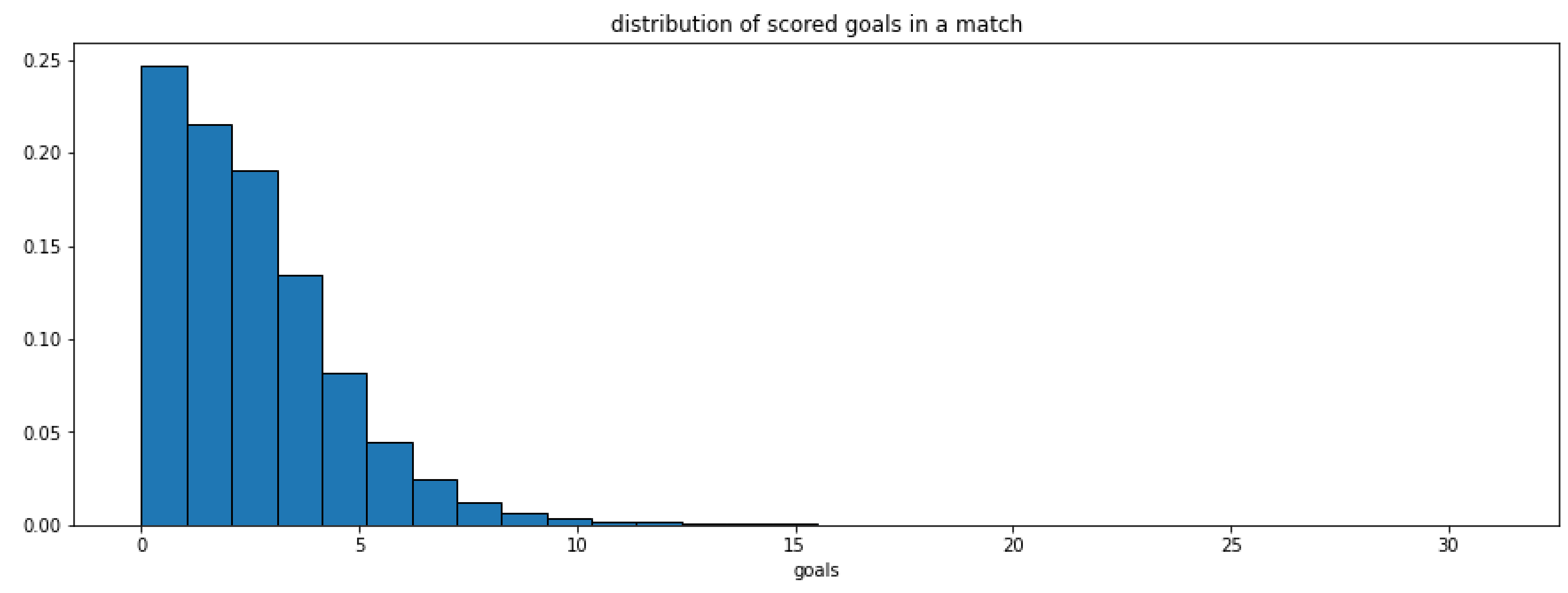
Out[53]:

	pair_of_teams	number_of_matches_between
0	(Argentina, Uruguay)	179
1	(Hungary, Austria)	137
2	(Netherlands, Belgium)	125
3	(England, Scotland)	117
4	(Kenya, Uganda)	109
...	...	...
6940	(Latvia, Bahrain)	1
6941	(Tajikistan, Kuwait)	1
6942	(Thailand, Germany)	1
6943	(Basque Country, Honduras)	1
6944	(United Arab Emirates, Gambia)	1

6945 rows × 2 columns

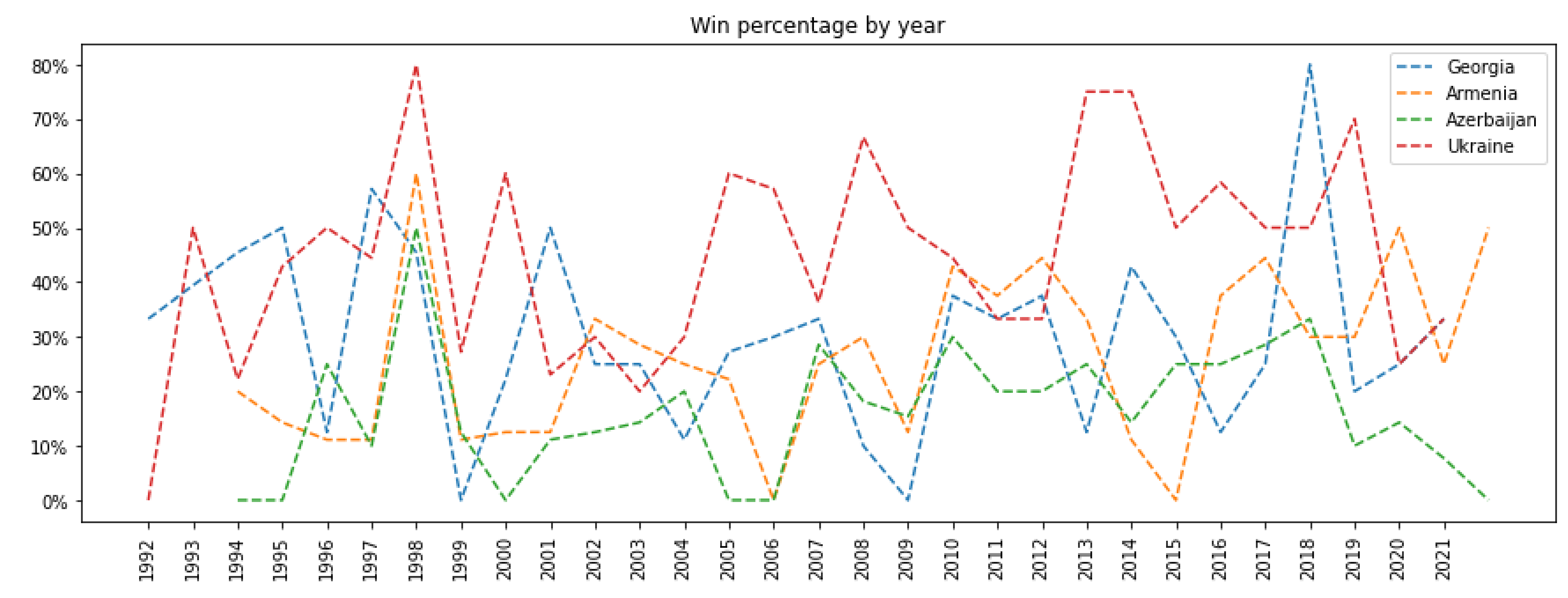
Plot distribution of goals per match

In [21]:
```
df["goals"]=df.home_score+df.away_score

plt.figure(figsize=(15,5))
plt.hist(df.goals,ec="k",bins=30,density=True)
plt.title("distribution of scored goals in a match")
plt.xlabel("goals")
plt.show()
```



Win percentage of Georgian National Football Team per year vs Ukraine, Armenia, Azerbaijan

In [12]:
```
import matplotlib.ticker as mtick
plt.figure(figsize=(15,5))

teams=["Georgia","Armenia","Azerbaijan","Ukraine"]
compiled=pd.DataFrame()

for team in teams:

    home_matches=df[df.home_team==team].groupby(["year","home_team"])["home_team"].count().reset_index(name="home_matches")
    home_wins=df[(df.home_score>df.away_score)&(df.home_team==team)].groupby(["year","home_team"])["home_team"].count().reset_index(name="home_wins")

    away_matches=df[df.away_team==team].groupby(["year","away_team"])["away_team"].count().reset_index(name="away_matches")
    away_wins=df[(df.home_score<df.away_score)&(df.away_team==team)].groupby(["year","away_team"])["away_team"].count().reset_index(name="away_wins")

    merged1=home_matches.merge(home_wins,on=["year","home_team"],how="left")
    merged2=away_matches.merge(away_wins,on=["year","away_team"],how="left")
    merged=merged1.merge(merged2,left_on=["year","home_team"],right_on=["year","away_team"])

    merged[["home_matches","away_matches","home_wins","away_wins"]]=merged[["home_matches","away_matches","home_wins","away_wins"]].fillna(0)

    merged["matches"]=merged.home_matches+merged.away_matches
    merged["wins"]=merged.home_wins+merged.away_wins
    merged["win_percentage"]=(merged.wins/merged.matches*100).round(2)
    merged.rename(columns={"home_team":"team"},inplace=True)
    result=merged[["year","team","matches","wins","win_percentage"]]
    plt.plot(result.year,result.win_percentage,ls="--",label=team)
    plt.gca().yaxis.set_major_formatter(mtick.PercentFormatter(100))
    plt.xticks(result.year,rotation=90)
plt.title("Win percentage by year")
plt.legend()
plt.show()
```



which are the most awkward rivals (like Germany and Portugal)

count number of losses of team_one vs team_two

In [34]:
```
grouped1=df[df.home_score<df.away_score].groupby(["home_team","away_team"])["home_team"].count().reset_index(name="home_losses")
grouped2=df[df.home_score>df.away_score].groupby(["away_team","home_team"])["away_team"].count().reset_index(name="away_losses")

merged=grouped1.merge(grouped2,left_on=["home_team","away_team"],right_on=["away_team","home_team"])

result=merged[["home_team_x","away_team_x","home_losses","away_losses"]]
result=result.rename(columns={"home_team_x":"losser_team","away_team_x":"winner_team"})

result["losses"]=result.home_losses+result.away_losses
result_loss=result.sort_values(["losser_team","losses"],ascending=[True,False])
#result_loss
```

count number of matches of team_one vs team_two

In [38]:
```
grouped1=df.groupby(["home_team","away_team"])["home_team"].count().reset_index(name="home_matches")
grouped2=df.groupby(["away_team","home_team"])["away_team"].count().reset_index(name="away_matches")

merged=grouped1.merge(grouped2,left_on=["home_team","away_team"],right_on=["away_team","home_team"])

result=merged[["home_team_x","away_team_x","home_matches","away_matches"]]
result=result.rename(columns={"home_team_x":"team_one","away_team_x":"team_two"})

result["matches"]=result.home_matches+result.away_matches
result_matches=result.sort_values(["team_one","matches"],ascending=[True,False])
#result_matches
```

Finally merge two tables and find the percentage of losses vs team_two

In [41]:
```
final=result_matches.merge(result_loss,left_on=["team_one","team_two"],right_on=["losser_team","winner_team"])
final=final[["losser_team","winner_team","matches","losses"]]
final["loss_percentage"]=(final.losses/final.matches*100).round()
final=final.sort_values(["losser_team","loss_percentage"],ascending=[True,False])
final
#final[final.losser_team=="Georgia"]
```

Out[41]:

	losser_team	winner_team	matches	losses	loss_percentage
6	Afghanistan	Syria	4	4	100.0
7	Afghanistan	Oman	3	3	100.0
9	Afghanistan	Japan	2	2	100.0
3	Afghanistan	Tajikistan	6	5	83.0
4	Afghanistan	Qatar	5	4	80.0
...	...	...	...	...	...
4152	Zimbabwe	Malawi	62	17	27.0
4158	Zimbabwe	Mauritius	13	3	23.0
4155	Zimbabwe	Botswana	18	4	22.0
4168	Åland Islands	Jersey	6	6	100.0
4169	Åland Islands	Isle of Man	4	2	50.0

4170 rows × 5 columns

In [ ]: