In [2]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [4]:
```
df = pd.read_csv(r"C:\Users\Administrator\Downloads\country_wise_latest.csv")
df.head()
```

Out[4]:

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	Eastern Mediterranean
1	Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa

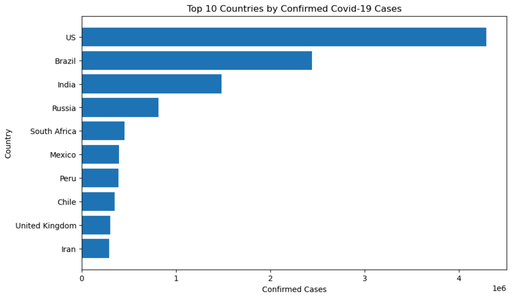
In [6]:
```
#df.info()
df.columns
```

Out[6]:
```
Index(['Country/Region', 'Confirmed', 'Deaths', 'Recovered', 'Active',
       'New cases', 'New deaths', 'New recovered', 'Deaths / 100 Cases',
       'Recovered / 100 Cases', 'Deaths / 100 Recovered',
       'Confirmed last week', '1 week change', '1 week % increase',
       'WHO Region'],
      dtype='object')
```

In [7]:
```
df.isnull().sum()
df.fillna(0, inplace=True)
```

In [8]:
```
top10 = df.sort_values(by='Confirmed', ascending=False).head(10)

plt.figure(figsize=(10,6))
plt.barh(top10['Country/Region'], top10['Confirmed'])
plt.title("Top 10 Countries by Confirmed Covid-19 Cases")
plt.xlabel("Confirmed Cases")
plt.ylabel("Country")
plt.gca().invert_yaxis()
plt.show()
```



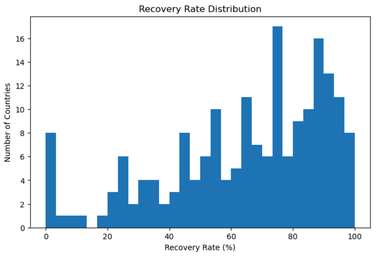
In [9]:
```
df['Death Rate (%)'] = (df['Deaths'] / df['Confirmed']) * 100

top_death_rate = df.sort_values(by='Death Rate (%)', ascending=False).head(10)
top_death_rate[['Country/Region', 'Death Rate (%)']]
```

Out[9]:

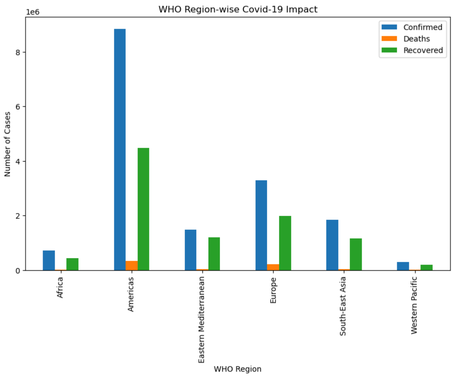
	Country/Region	Death Rate (%)
184	Yemen	28.562980
177	United Kingdom	15.194824
16	Belgium	14.785934
85	Italy	14.256596
61	France	13.710790
77	Hungary	13.399281
120	Netherlands	11.532773
111	Mexico	11.131030
157	Spain	10.436787
183	Western Sahara	10.000000

In [10]:
```
plt.figure(figsize=(8,5))
plt.hist(df['Recovered / 100 Cases'], bins=30)
plt.title("Recovery Rate Distribution")
plt.xlabel("Recovery Rate (%)")
plt.ylabel("Number of Countries")
plt.show()
```



In [11]:
```
region_data = df.groupby('WHO Region')[['Confirmed', 'Deaths', 'Recovered']].sum()

region_data.plot(kind='bar', figsize=(10,6))
plt.title("WHO Region-wise Covid-19 Impact")
plt.ylabel("Number of Cases")
plt.show()
```

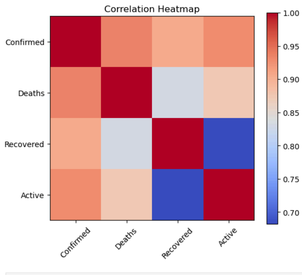


In [12]:
```
correlation = df[["Confirmed", 'Deaths', 'Recovered', 'Active']].corr()
correlation
```

Out[12]:

	Confirmed	Deaths	Recovered	Active
Confirmed	1.000000	0.934698	0.906377	0.927018
Deaths	0.934698	1.000000	0.832098	0.871586
Recovered	0.906377	0.832098	1.000000	0.682103
Active	0.927018	0.871586	0.682103	1.000000

In [13]:
```
plt.figure(figsize=(6,5))
plt.imshow(correlation, cmap='coolwarm')
plt.colorbar()
plt.xticks(range(len(correlation.columns)), correlation.columns, rotation=45)
plt.yticks(range(len(correlation.columns)), correlation.columns)
plt.title("Correlation Heatmap")
plt.show()
```



In [14]:
```
df[['Country/Region', 'New cases', 'New deaths']].sort_values(
    by='New cases'
).head(10)
```

Out[14]:

	Country/Region	New cases	New deaths
59	Fiji	0	0
24	Brunei	0	0
142	Saint Vincent and the Grenadines	0	0
143	San Marino	0	0
166	Tanzania	0	0
33	Central African Republic	0	0
75	Holy See	0	0
72	Guinea-Bissau	0	0
168	Timor-Leste	0	0
69	Grenada	0	0

In [ ]: