```python
1  import pandas as pd
2  import plotly.express as px
3  import plotly.graph_objects as go
4  import numpy as np
5  from dash import dcc
6
7  #Aufgabe 36
8  print("\nAufgabe 36\nProjektgruppe:\nBenito
   Rusconi\nRaphael Brunold\n")
9
10 #Aufgabe 37
11 #(a)
12 df = pd.read_csv(r'.\Summer-Olympic-medals-
   1976-to-2008.csv', encoding="utf-8")
13 df['Country'] = df['Country'].astype(str)
14 print("Aufgabe 37 (a)\n",df.head(),"\n\n")
15
16 #(b)
17 print(df.info())
18 count_row = df.shape[0]  # Gives number of
   rows
19 count_col = df.shape[1]  # Gives number of
   columns
20 print("Aufgabe 37 (b)\nDer Datensatz hat
   insgesamt",count_col,"Spalten und",count_row,
   "Zeilen.\n\n\n\n\n")
21
22 #Aufgabe 38
23 #a)
24 Land = df.groupby('Country')
25 #print(Land.head())
26
27 #b)
28 Sportart = df.groupby('Sport')
29 #print(Sportart.head())
```

```python
30
31 #c)
32 CSdf= df.groupby(['Country', 'Sport']).size
   ().reset_index(name='counts')
33 print("here")
34 print(CSdf)
35 fig = px.bar(CSdf, x="Sport",
36               y='counts',color='Country',
37               title="Medal Occurence by
   Country",
38              height=600
39             )
40
41 fig.show()
42
43 #Aufgabe 39
44 df_max = df.groupby(['Country','Year'])['
   Medal'].count().reset_index(drop=False)
45 swiss = df_max[df_max["Country"] == '
   Switzerland']
46 #print(swiss)
47 #a)
48 fig = px.scatter(x=swiss['Year'], y=swiss['
   Medal'])
49 #fig.show()
50 #b)
51 df = px.data.tips()
52 fig = px.histogram(df, x=swiss['Medal'])
53 #fig.show()
54 #c)
55 fig = px.line(x=swiss['Year'], y=swiss['Medal
   '], title='Switzerland Medal per Year')
56 #fig.show()
57 df = pd.read_csv(r'.\Summer-Olympic-medals-
   1976-to-2008.csv', encoding="utf-8")
```

```python
58
59 #Aufgabe 40
60 df['Bronze'] = np.where(df['Medal']== 'Bronze
   ', 1, 0)
61 df['Silver'] = np.where(df['Medal']== 'Silver
   ', 1, 0)
62 df['Gold'] = np.where(df['Medal']== 'Gold', 1
   , 0)
63 df1=pd.pivot_table(df, index=['Country','Year
   '],values=['Bronze','Silver','Gold'],aggfunc=
   np.sum)
64 print(df1)
65 df1.to_csv('summary.csv')
66 df1=pd.read_csv(r'.\summary.csv', encoding="
   utf-8")
67 print(df1.info())
68 fig = px.bar(df1, x=df1['Year'], y=[df1['
   Bronze'],df1['Silver'],df1['Gold']],
   color_discrete_map={'Bronze': 'orange', '
   Silver': 'silver', 'Gold':'gold'}, title="By
   Country")
69 #fig.show()
70
71 #Siehe Dashboard -> Dort ist es mit Dropdown
   und Callback wie gewünscht implementiert
```