```
import pandas as pd
import matplotlib.pyplot as plt

deaths = pd.read_csv("avg_deaths.csv") # 1st January to 15 December
2020
deaths
```

```
    Month  New_deaths
0       1           0
1       2           0
2       3          77
3       4        1844
4       5        1448
5       6         785
6       7         769
7       8        1020
8       9         739
9      10         751
10     11        1225
11     12        2247
```

```
import calendar

deaths["num_days"] = 0

deaths
```

```
    Month  New_deaths  num_days
0       1           0         0
1       2           0         0
2       3          77         0
3       4        1844         0
4       5        1448         0
5       6         785         0
6       7         769         0
7       8        1020         0
8       9         739         0
9      10         751         0
10     11        1225         0
11     12        2247         0
```

```
deaths["year"] = 2020

deaths.columns
```

```
Index(['Month', 'New_deaths', 'num_days', 'year'], dtype='object')
```

```
deaths = deaths[['year','Month','num_days' ,'New_deaths', ]]

deaths
```

```
    year  Month  num_days  New_deaths
0   2020      1         0           0
1   2020      2         0           0
2   2020      3         0          77
3   2020      4         0        1844
4   2020      5         0        1448
5   2020      6         0         785
6   2020      7         0         769
7   2020      8         0        1020
8   2020      9         0         739
9   2020     10         0         751
10  2020     11         0        1225
11  2020     12         0        2247
```

```
deaths.columns = ['Year','Month','Num_days' ,'New_deaths', ]
deaths
```

```
    Year  Month  Num_days  New_deaths
0   2020      1         0           0
1   2020      2         0           0
2   2020      3         0          77
3   2020      4         0        1844
4   2020      5         0        1448
5   2020      6         0         785
6   2020      7         0         769
7   2020      8         0        1020
8   2020      9         0         739
9   2020     10         0         751
10  2020     11         0        1225
11  2020     12         0        2247
```

```
def days(year,month):
    _, num_days = calendar.monthrange(year, month)
    return num_days

days = (deaths[["Year", "Month"]]).apply(lambda
row:days(row["Year"],row["Month"]), axis = 1)

deaths.Num_days = days

deaths.loc[11, "Num_days"]//=2

# deaths.loc[11, "Num_days"] = 15

deaths
```

```
    Year  Month  Num_days  New_deaths
0   2020      1        31           0
1   2020      2        29           0
2   2020      3        31          77
3   2020      4        30        1844
```

```
4   2020      5         31        1448
5   2020      6         30         785
6   2020      7         31         769
7   2020      8         31        1020
8   2020      9         30         739
9   2020     10         31         751
10  2020     11         30        1225
11  2020     12         15        2247
```

```
deaths["Monthly_deaths"] = deaths.Num_days.mul(deaths.New_deaths)

deaths.rename({"New_deaths":"Avg_deaths"}, axis = 1, inplace = True)

deaths["Cum_deaths"] = deaths.Monthly_deaths.cumsum()

deaths
```

```
    Year  Month  Num_days  Avg_deaths  Monthly_deaths  Cum_deaths
0   2020      1        31           0               0           0
1   2020      2        29           0               0           0
2   2020      3        31          77            2387        2387
3   2020      4        30        1844           55320       57707
4   2020      5        31        1448           44888      102595
5   2020      6        30         785           23550      126145
6   2020      7        31         769           23839      149984
7   2020      8        31        1020           31620      181604
8   2020      9        30         739           22170      203774
9   2020     10        31         751           23281      227055
10  2020     11        30        1225           36750      263805
11  2020     12        15        2247           33705      297510
```

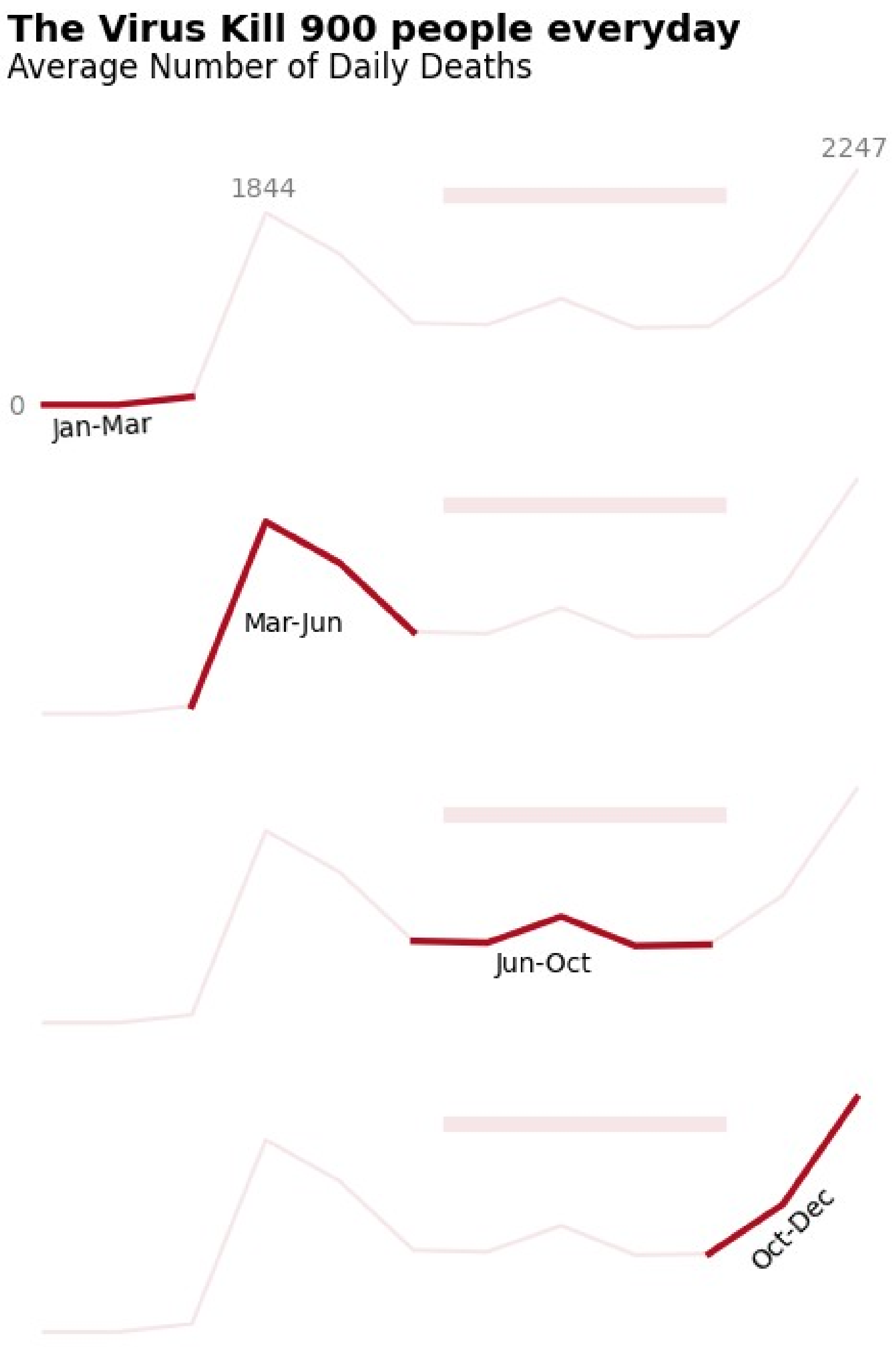
```
deaths["Avg_deaths"].mean()
```

```
908.75
```

```
cum_cases =
[deaths.loc[2,"Cum_deaths" ],deaths.loc[5,"Cum_deaths"],deaths.loc[9,"
Cum_deaths" ],
            deaths.loc[11,"Cum_deaths" ]]

cum_cases
```

```
[2387, 126145, 227055, 297510]
```

```
fig,(ax1, ax2, ax3, ax4) = plt.subplots(nrows = 4, ncols = 1, figsize
= (6,8))

axes = [ax1, ax2, ax3, ax4]


for ax in axes:
    ax.plot(deaths["Month"], deaths["Avg_deaths"], color = "#b00b1e",
alpha = 0.1)
    ax.set_xticklabels([]) # Data Ink, Data Element
    ax.set_yticklabels([])
    ax.tick_params(bottom = False, left = False) # Non Data Ink ->
removing Structural element
    # ax.spines["left"].set_visible(False)
    for spine in ax.spines:
        ax.spines[spine].set_visible(False)

ax1.plot(deaths["Month"][:3], deaths["Avg_deaths"][:3], color =
"#b00b1e", linewidth = 2.5)
ax1.text(x = 0.5, y= -80, s = "0", alpha = 0.5)
ax1.text(x = 3.5, y= 2000, s = "1844", alpha = 0.5)
ax1.text(x = 11.5, y= 2400, s = "2247", alpha = 0.5)
ax1.text(x = 1.1, y= -300, s = "Jan-Mar", rotation = 3)
ax1.text(0.5, 3500, "The Virus Kill 900 people everyday", size = 14,
weight = "bold")
ax1.text(0.5, 3150, "Average Number of Daily Deaths", size = 12,)



ax2.plot(deaths["Month"][2:6], deaths["Avg_deaths"][2:6], color =
"#b00b1e", linewidth = 2.5)
ax2.text(x = 3.7, y= 800, s = "Mar-Jun")



ax3.plot(deaths["Month"][5:10], deaths["Avg_deaths"][5:10], color =
"#b00b1e", linewidth = 2.5)
ax3.text(x = 7.1, y= 500, s = "Jun-Oct")

ax4.plot(deaths["Month"][9:], deaths["Avg_deaths"][9:], color =
"#b00b1e", linewidth = 2.5)
ax4.text(x = 10.5, y= 600, s = "Oct-Dec", rotation = 45)

for ax in axes:
    ax.axhline(y = 2000, xmin = 0.5, xmax = 0.8, c = "#b00b1e",
linewidth = 6, alpha = 0.1)

plt.show()
```



The Virus Kill 900 people everyday

Average Number of Daily Deaths

```
proportions = [round(i/cum_cases[-1], 2) for i in cum_cases]
proportions
```

```
[0.01, 0.42, 0.76, 1.0]
```

```
proportions = []

for i in cum_cases:
    v = i/297510
    final = round(v,2)
    # print(final)
    proportions.append(final)

proportions
```

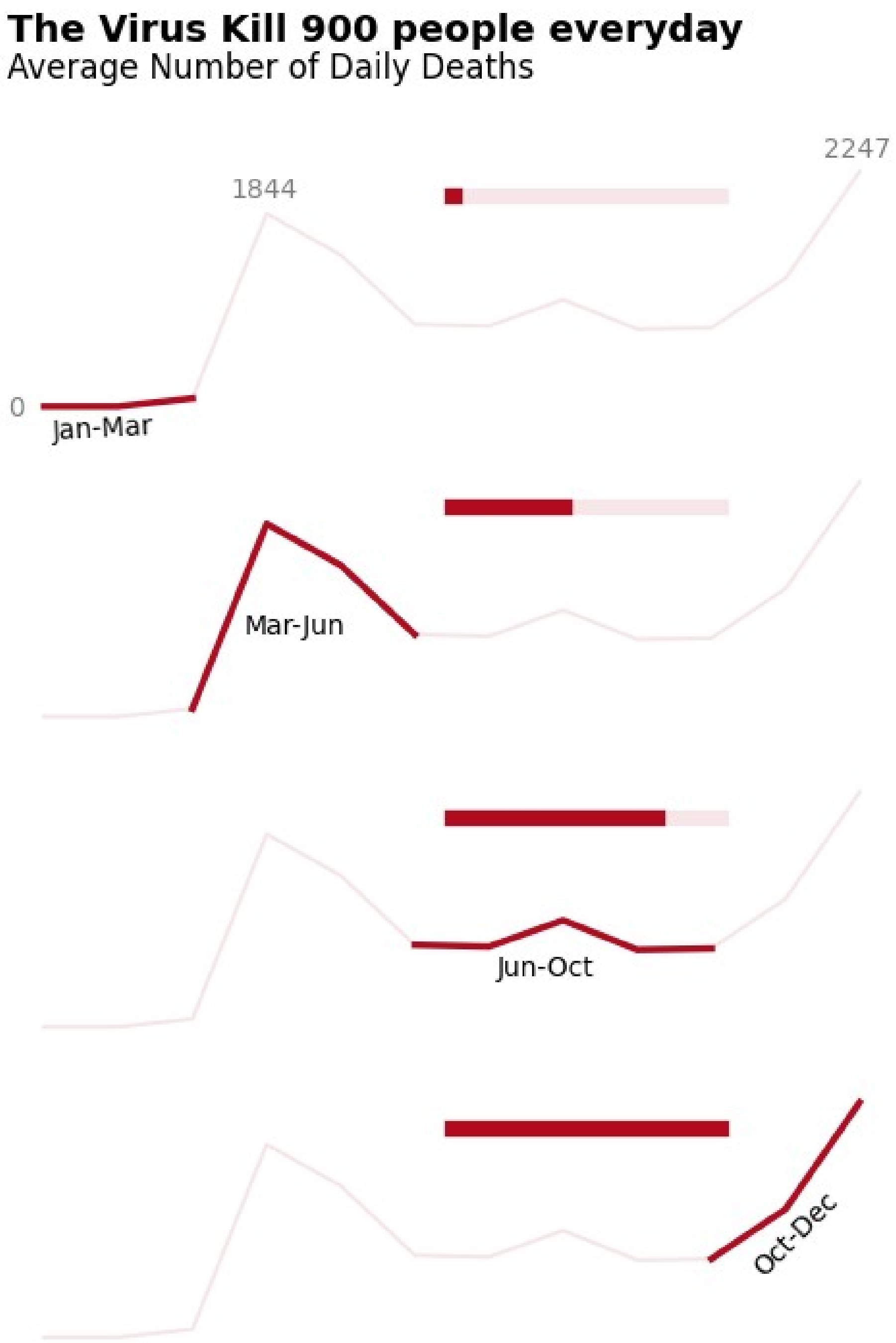
```
[0.01, 0.42, 0.76, 1.0]
```

```
xmaxs = [0.5 + i*(0.8-0.5) for i in proportions]

xmaxs
```

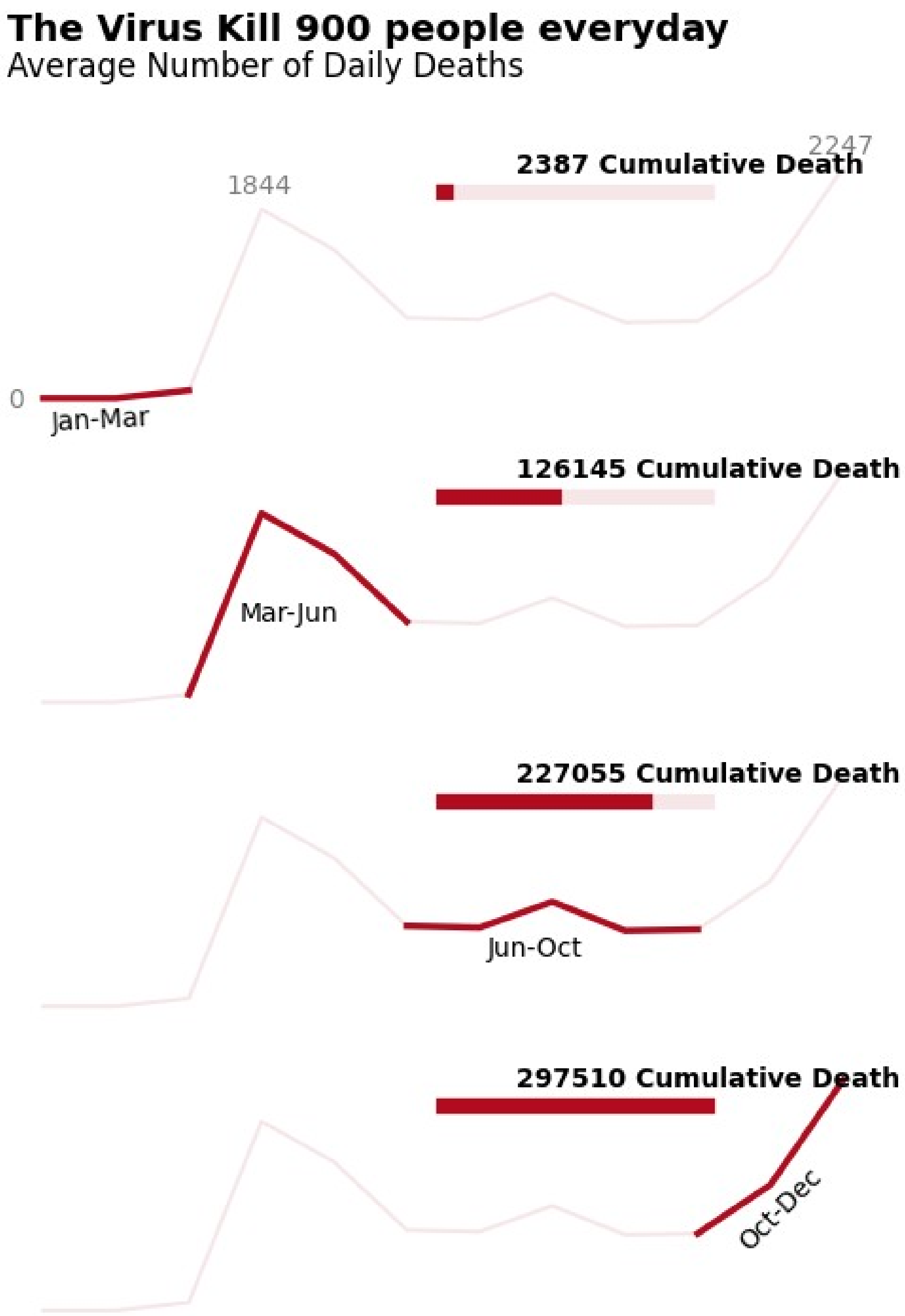
```
[0.503, 0.626, 0.728, 0.8]
```

```
fig,(ax1, ax2, ax3, ax4) = plt.subplots(nrows = 4, ncols = 1, figsize = (6,8))

axes = [ax1, ax2, ax3, ax4]


for ax in axes:
    ax.plot(deaths["Month"], deaths["Avg_deaths"], color = "#b00b1e", alpha = 0.1)
    ax.set_xticklabels([]) # Data Ink, Data Element
    ax.set_yticklabels([])
    ax.tick_params(bottom = False, left = False) # Non Data Ink -> removing Structural element
    # ax.spines["left"].set_visible(False)
    for spine in ax.spines:
        ax.spines[spine].set_visible(False)

ax1.plot(deaths["Month"][:3], deaths["Avg_deaths"][:3], color = "#b00b1e", linewidth = 2.5)
ax1.text(x = 0.5, y= -80, s = "0", alpha = 0.5)
ax1.text(x = 3.5, y= 2000, s = "1844", alpha = 0.5)
ax1.text(x = 11.5, y= 2400, s = "2247", alpha = 0.5)
ax1.text(x = 1.1, y= -300, s = "Jan-Mar", rotation = 3)
ax1.text(0.5, 3500, "The Virus Kill 900 people everyday", size = 14, weight = "bold")
ax1.text(0.5, 3150, "Average Number of Daily Deaths", size = 12,)



ax2.plot(deaths["Month"][2:6], deaths["Avg_deaths"][2:6], color = "#b00b1e", linewidth = 2.5)
ax2.text(x = 3.7, y= 800, s = "Mar-Jun")



ax3.plot(deaths["Month"][5:10], deaths["Avg_deaths"][5:10], color = "#b00b1e", linewidth = 2.5)
```

```
ax3.text(x = 7.1, y= 500, s = "Jun-Oct")

ax4.plot(deaths["Month"][9:], deaths["Avg_deaths"][9:], color =
"#b00b1e", linewidth = 2.5)
ax4.text(x = 10.5, y= 600, s = "Oct-Dec", rotation = 45)

for ax, xmax in zip(axes, xmaxs):
    ax.axhline(y = 2000, xmin = 0.5, xmax = 0.8, c = "#b00b1e",
linewidth = 6, alpha = 0.1)
    ax.axhline(y = 2000, xmin = 0.5, xmax = xmax, c = "#b00b1e",
linewidth = 6)

plt.show()
```

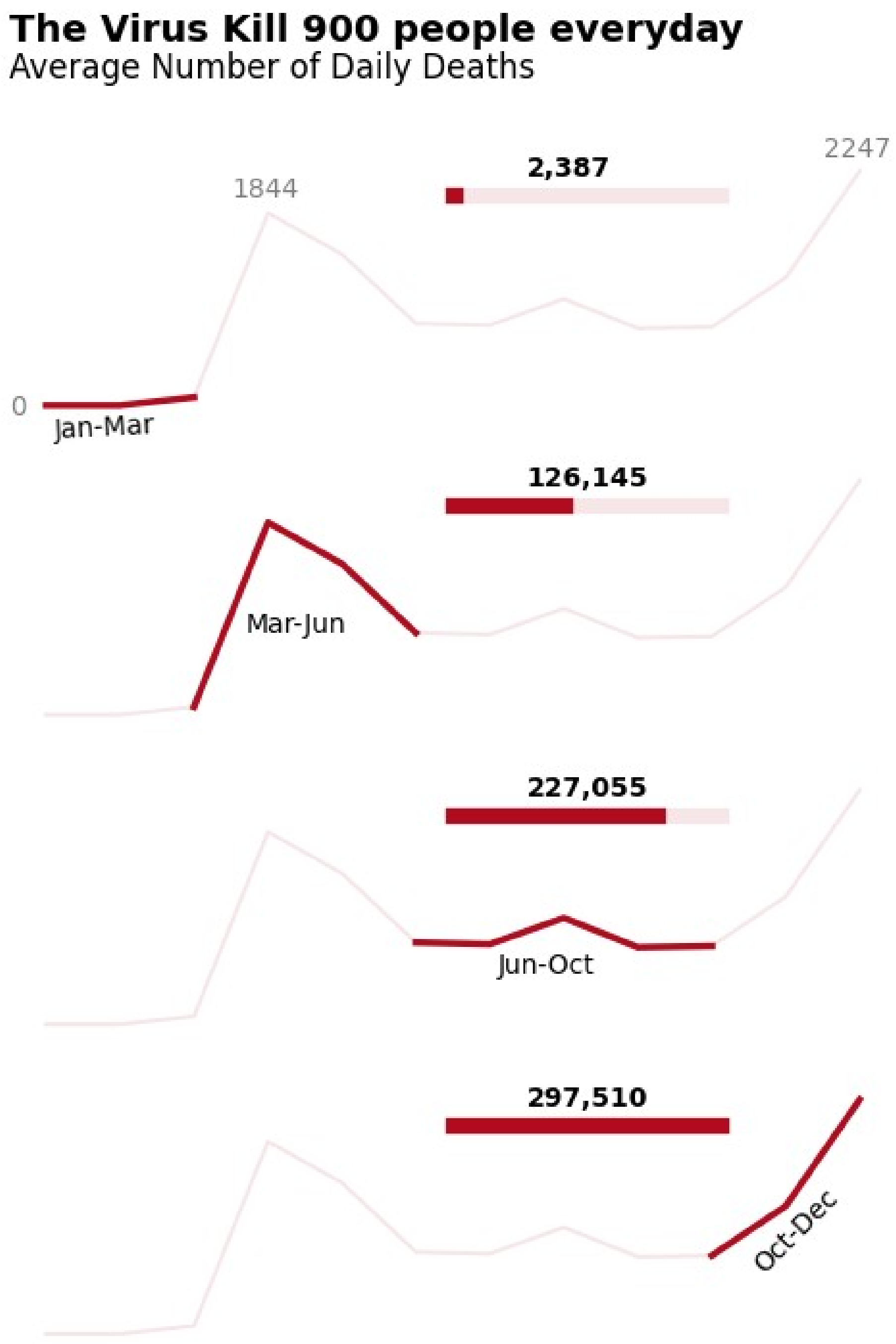


```
fig,(ax1, ax2, ax3, ax4) = plt.subplots(nrows = 4, ncols = 1, figsize
= (6,8))

axes = [ax1, ax2, ax3, ax4]


for ax in axes:
    ax.plot(deaths["Month"], deaths["Avg_deaths"], color = "#b00b1e",
alpha = 0.1)
    ax.set_xticklabels([]) # Data Ink, Data Element
    ax.set_yticklabels([])
    ax.tick_params(bottom = False, left = False) # Non Data Ink ->
removing Structural element
    # ax.spines["left"].set_visible(False)
    for spine in ax.spines:
        ax.spines[spine].set_visible(False)

ax1.plot(deaths["Month"][:3], deaths["Avg_deaths"][:3], color =
"#b00b1e", linewidth = 2.5)
ax1.text(x = 0.5, y= -80, s = "0", alpha = 0.5)
ax1.text(x = 3.5, y= 2000, s = "1844", alpha = 0.5)
ax1.text(x = 11.5, y= 2400, s = "2247", alpha = 0.5)
ax1.text(x = 1.1, y= -300, s = "Jan-Mar", rotation = 3)
ax1.text(0.5, 3500, "The Virus Kill 900 people everyday", size = 14,
weight = "bold")
ax1.text(0.5, 3150, "Average Number of Daily Deaths", size = 12,)



ax2.plot(deaths["Month"][2:6], deaths["Avg_deaths"][2:6], color =
"#b00b1e", linewidth = 2.5)
ax2.text(x = 3.7, y= 800, s = "Mar-Jun")



ax3.plot(deaths["Month"][5:10], deaths["Avg_deaths"][5:10], color =
"#b00b1e", linewidth = 2.5)
ax3.text(x = 7.1, y= 500, s = "Jun-Oct")

ax4.plot(deaths["Month"][9:], deaths["Avg_deaths"][9:], color =
"#b00b1e", linewidth = 2.5)
ax4.text(x = 10.5, y= 600, s = "Oct-Dec", rotation = 45)

for ax,death, xmax in zip(axes, cum_cases, xmaxs):
    ax.axhline(y = 2000, xmin = 0.5, xmax = 0.8, c = "#b00b1e",
linewidth = 6, alpha = 0.1)
    ax.axhline(y = 2000, xmin = 0.5, xmax = xmax, c = "#b00b1e",
linewidth = 6)
    ax.text(x = 7.5 , y = 2200 , s = str(death) + " Cumulative Death",
weight = "bold",)


plt.show()
```



```
fig,(ax1, ax2, ax3, ax4) = plt.subplots(nrows = 4, ncols = 1, figsize
= (6,8))

axes = [ax1, ax2, ax3, ax4]


for ax in axes:
    ax.plot(deaths["Month"], deaths["Avg_deaths"], color = "#b00b1e",
alpha = 0.1)
    ax.set_xticklabels([]) # Data Ink, Data Element
    ax.set_yticklabels([])
    ax.tick_params(bottom = False, left = False) # Non Data Ink ->
removing Structural element
    # ax.spines["left"].set_visible(False)
    for spine in ax.spines:
        ax.spines[spine].set_visible(False)

ax1.plot(deaths["Month"][:3], deaths["Avg_deaths"][:3], color =
"#b00b1e", linewidth = 2.5)
ax1.text(x = 0.5, y= -80, s = "0", alpha = 0.5)
ax1.text(x = 3.5, y= 2000, s = "1844", alpha = 0.5)
ax1.text(x = 11.5, y= 2400, s = "2247", alpha = 0.5)
ax1.text(x = 1.1, y= -300, s = "Jan-Mar", rotation = 3)
ax1.text(0.5, 3500, "The Virus Kill 900 people everyday", size = 14,
weight = "bold")
ax1.text(0.5, 3150, "Average Number of Daily Deaths", size = 12,)



ax2.plot(deaths["Month"][2:6], deaths["Avg_deaths"][2:6], color =
"#b00b1e", linewidth = 2.5)
ax2.text(x = 3.7, y= 800, s = "Mar-Jun")



ax3.plot(deaths["Month"][5:10], deaths["Avg_deaths"][5:10], color =
"#b00b1e", linewidth = 2.5)
ax3.text(x = 7.1, y= 500, s = "Jun-Oct")

ax4.plot(deaths["Month"][9:], deaths["Avg_deaths"][9:], color =
"#b00b1e", linewidth = 2.5)
ax4.text(x = 10.5, y= 600, s = "Oct-Dec", rotation = 45)

for ax,death, xmax in zip(axes, cum_cases, xmaxs):
    ax.axhline(y = 2000, xmin = 0.5, xmax = 0.8, c = "#b00b1e",
linewidth = 6, alpha = 0.1)
    ax.axhline(y = 2000, xmin = 0.5, xmax = xmax, c = "#b00b1e",
linewidth = 6)
    ax.text(x = 7.5 , y = 2200 , s = format(death, ","), weight =
"bold",)
print(ax1.get_xticks())
print(ax1.get_yticks())


plt.show()
```

```
[ 0.  2.  4.  6.  8. 10. 12. 14.]
[-1000.     0.  1000.  2000.  3000.]
```



Wine Quality

```
url = "https://archive.ics.uci.edu/static/public/186/wine+quality.zip"

import requests

response = requests.get(url)
```

```
with open("wine.zip", "wb") as f:
    f.write(response.content)

import zipfile

with zipfile.ZipFile("wine.zip") as zipped:
    zipped.extractall("wine")


red_wine = pd.read_csv("wine\winequality-red.csv")
white_wine = pd.read_csv("wine\winequality-white.csv")

red_wine.head()

  fixed acidity;"volatile acidity";"citric acid";"residual
sugar";"chlorides";"free sulfur dioxide";"total sulfur
dioxide";"density";"pH";"sulphates";"alcohol";"quality"
0   7.4;0.7;0;1.9;0.076;11;34;0.9978;3.51;0.56;9.4;5

1   7.8;0.88;0;2.6;0.098;25;67;0.9968;3.2;0.68;9.8;5

2  7.8;0.76;0.04;2.3;0.092;15;54;0.997;3.26;0.65;...

3  11.2;0.28;0.56;1.9;0.075;17;60;0.998;3.16;0.58...

4   7.4;0.7;0;1.9;0.076;11;34;0.9978;3.51;0.56;9.4;5


red_wine = pd.read_csv("wine\winequality-red.csv", sep = ";")
white_wine = pd.read_csv("wine\winequality-white.csv", delimiter =
";")

red_wine.head()

   fixed acidity  volatile acidity  citric acid  residual sugar
chlorides
0            7.4              0.70         0.00             1.9
0.076  \
1            7.8              0.88         0.00             2.6
0.098
2            7.8              0.76         0.04             2.3
0.092
3           11.2              0.28         0.56             1.9
0.075
4            7.4              0.70         0.00             1.9
0.076

   free sulfur dioxide  total sulfur dioxide  density    pH  sulphates

0                 11.0                  34.0   0.9978  3.51       0.56
\
1                 25.0                  67.0   0.9968  3.20       0.68
```

```
2                 15.0                  54.0   0.9970  3.26       0.65

3                 17.0                  60.0   0.9980  3.16       0.58

4                 11.0                  34.0   0.9978  3.51       0.56


   alcohol  quality
0      9.4        5
1      9.8        5
2      9.8        5
3      9.8        6
4      9.4        5
```

```
white_wine.head()
```

```
   fixed acidity  volatile acidity  citric acid  residual sugar
chlorides
0            7.0              0.27         0.36            20.7
0.045  \
1            6.3              0.30         0.34             1.6
0.049
2            8.1              0.28         0.40             6.9
0.050
3            7.2              0.23         0.32             8.5
0.058
4            7.2              0.23         0.32             8.5
0.058

   free sulfur dioxide  total sulfur dioxide  density    pH  sulphates

0                 45.0                 170.0   1.0010  3.00       0.45
\
1                 14.0                 132.0   0.9940  3.30       0.49

2                 30.0                  97.0   0.9951  3.26       0.44

3                 47.0                 186.0   0.9956  3.19       0.40

4                 47.0                 186.0   0.9956  3.19       0.40


   alcohol  quality
0      8.8        6
1      9.5        6
2     10.1        6
3      9.9        6
4      9.9        6
```

```
red_corr = red_wine.corr()["quality"][:-1]
red_corr
```

```
fixed acidity           0.124052
volatile acidity       -0.390558
citric acid             0.226373
residual sugar          0.013732
chlorides              -0.128907
free sulfur dioxide    -0.050656
total sulfur dioxide   -0.185100
density                -0.174919
pH                     -0.057731
sulphates               0.251397
alcohol                 0.476166
Name: quality, dtype: float64
```

```
white_corr = white_wine.corr()["quality"][:-1]
white_corr
```

```
fixed acidity          -0.113663
volatile acidity       -0.194723
citric acid            -0.009209
residual sugar         -0.097577
chlorides              -0.209934
free sulfur dioxide     0.008158
total sulfur dioxide   -0.174737
density                -0.307123
pH                      0.099427
sulphates               0.053678
alcohol                 0.435575
Name: quality, dtype: float64
```

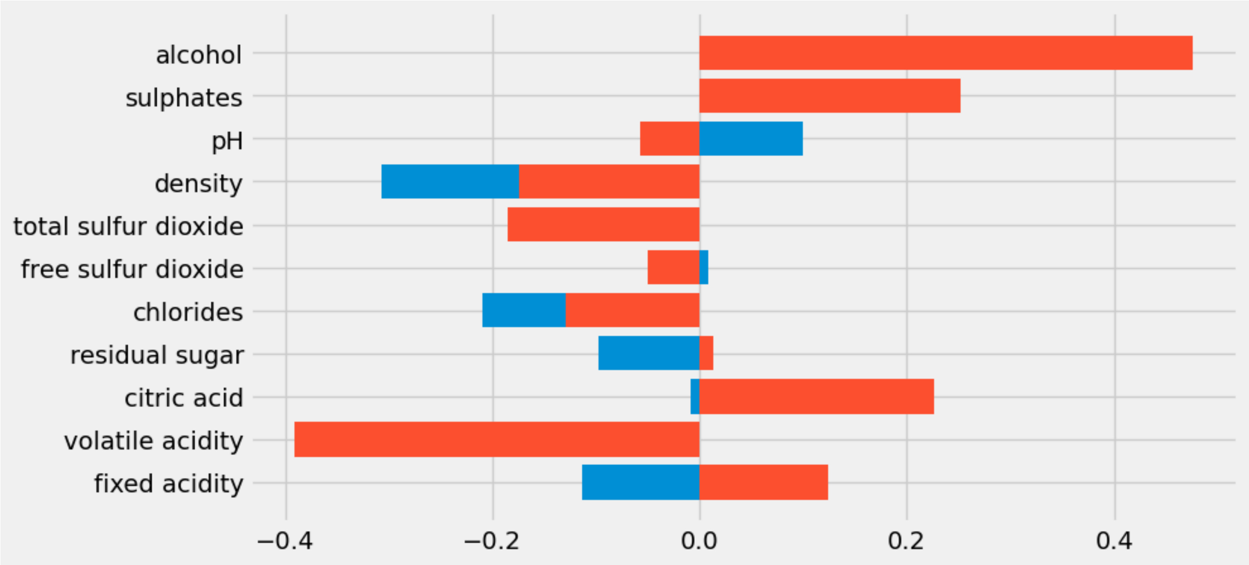
```
white_corr.index
```

```
Index(['fixed acidity', 'volatile acidity', 'citric acid', 'residual
sugar',
       'chlorides', 'free sulfur dioxide', 'total sulfur dioxide',
'density',
       'pH', 'sulphates', 'alcohol'],
      dtype='object')
```

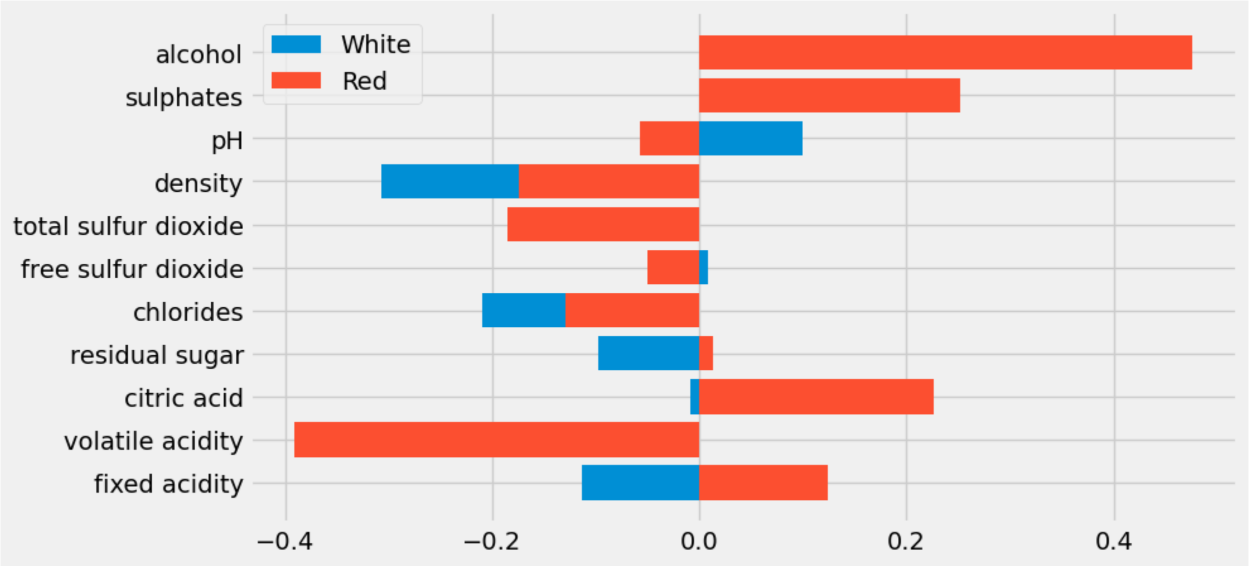
```
import matplotlib.style as style
```

```
print(style.available)
```

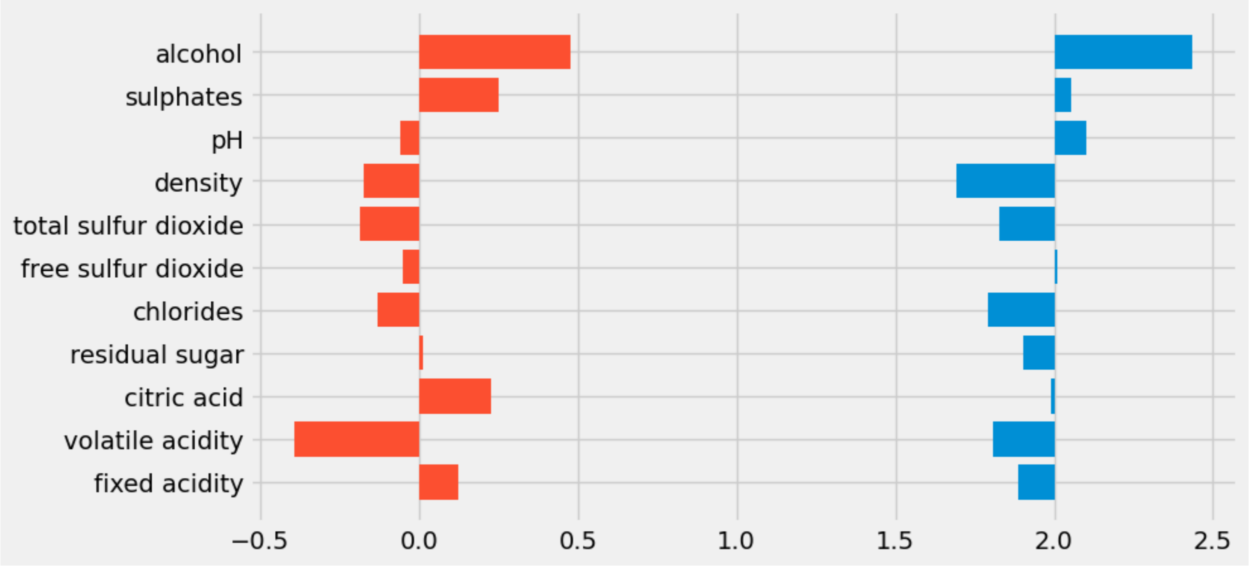
```
['Solarize_Light2', '_classic_test_patch', '_mpl-gallery', '_mpl-
gallery-nogrid', 'bmh', 'classic', 'dark_background', 'fast',
'fivethirtyeight', 'ggplot', 'grayscale', 'seaborn-v0_8', 'seaborn-
v0_8-bright', 'seaborn-v0_8-colorblind', 'seaborn-v0_8-dark',
'seaborn-v0_8-dark-palette', 'seaborn-v0_8-darkgrid', 'seaborn-v0_8-
deep', 'seaborn-v0_8-muted', 'seaborn-v0_8-notebook', 'seaborn-v0_8-
paper', 'seaborn-v0_8-pastel', 'seaborn-v0_8-poster', 'seaborn-v0_8-
talk', 'seaborn-v0_8-ticks', 'seaborn-v0_8-white', 'seaborn-v0_8-
whitegrid', 'tableau-colorblind10']

style.use('ggplot')

style.use('default')

style.use('fivethirtyeight')

fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr)
ax.barh(red_corr.index, red_corr.values)

plt.show()
```



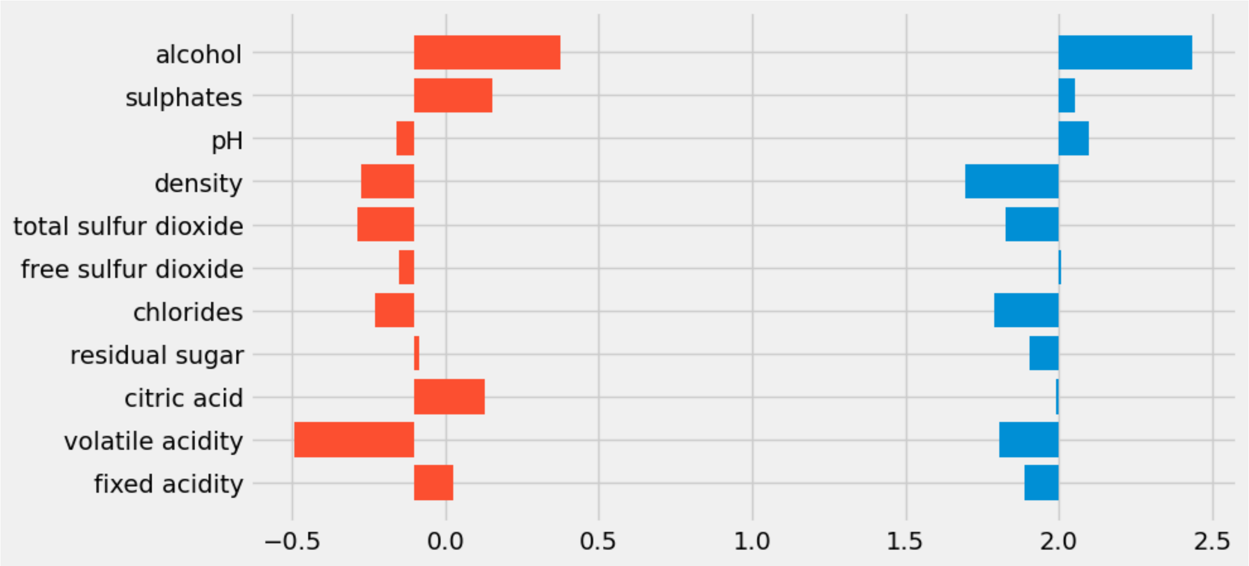
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, label = "White")
ax.barh(red_corr.index, red_corr.values, label = "Red")
plt.legend()
plt.show()
```



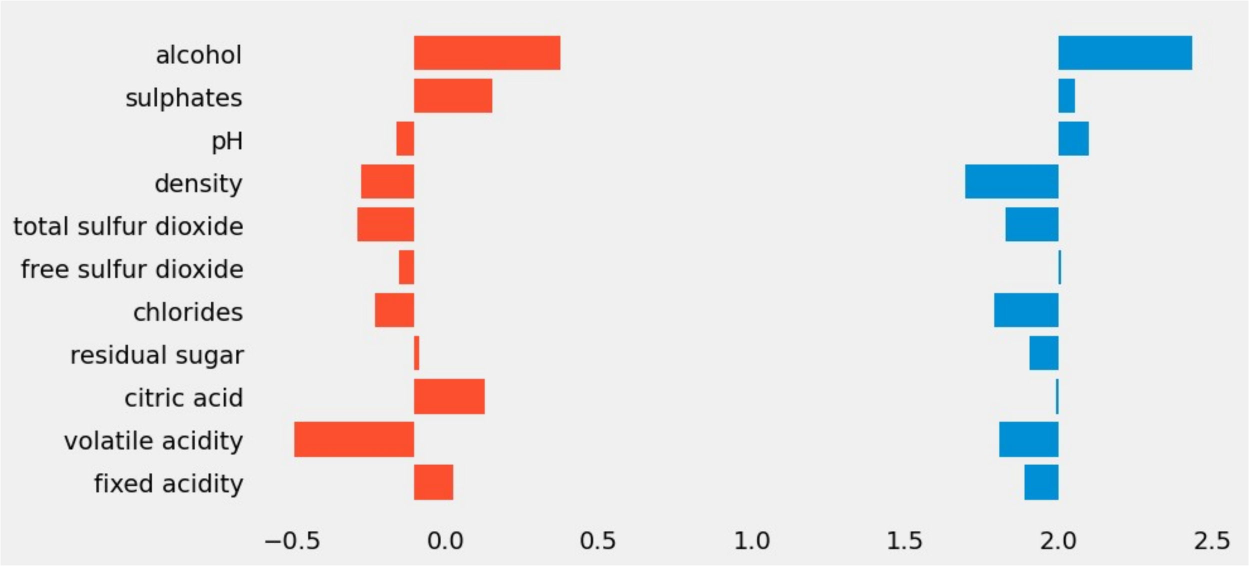
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values)
plt.show()
```



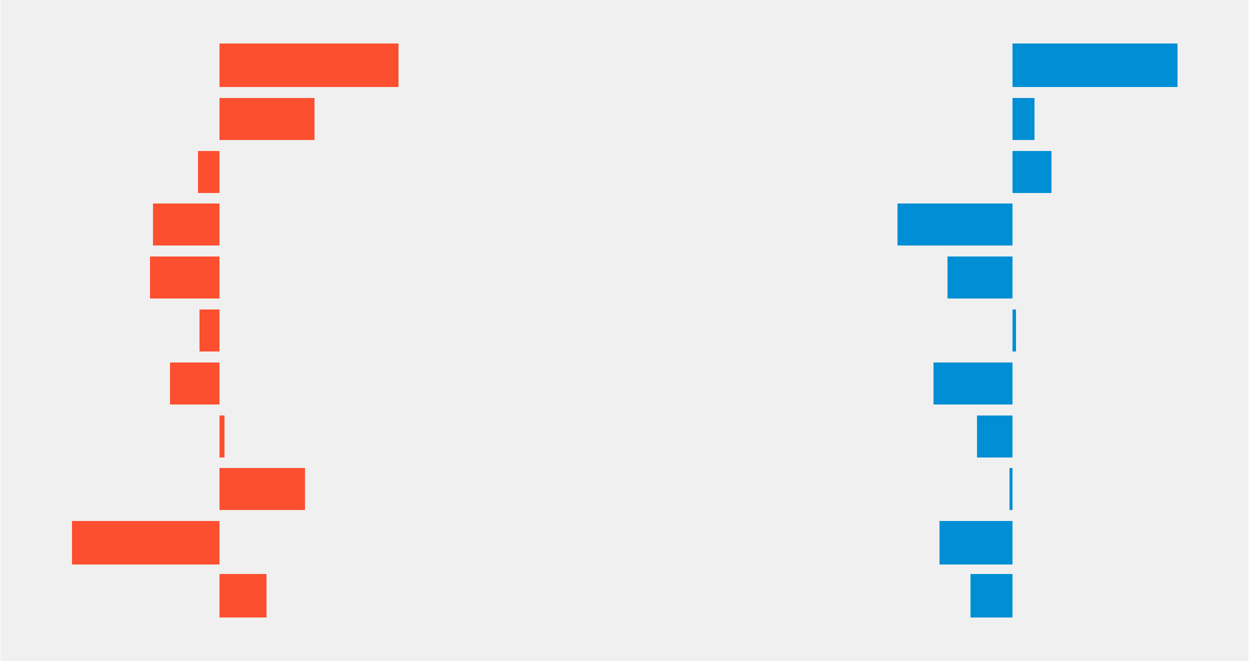
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
plt.show()
```



```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
plt.show()
```



```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])
plt.show()
```



```
import coord as waqas
# from coord import x_coords

dir(coord)
```

```
['__builtins__',
 '__cached__',
 '__doc__',
 '__file__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 'x_coords',
 'y_coord']
```

```
x_coords =  coord.x_coords
y_coord =  coord.y_coord

print(x_coords)
print()
print(y_coord)
```

```
{'Alcohol': 0.82, 'Sulphates': 0.77, 'pH': 0.91, 'Density': 0.8,
'Total Sulfur Dioxide': 0.59, 'Free Sulfur Dioxide': 0.6, 'Chlorides':
0.77, 'Residual Sugar': 0.67, 'Citric Acid': 0.76, 'Volatile Acidity':
0.67, 'Fixed Acidity': 0.71}
```

```
9.8
```

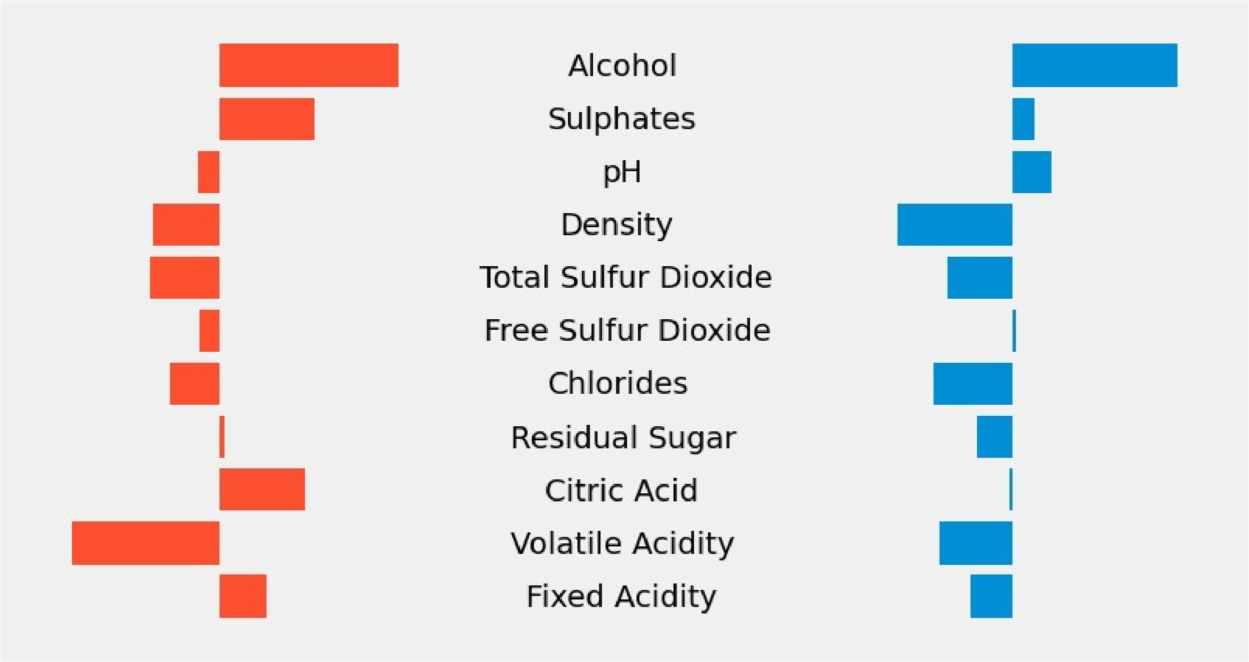
```
white_corr.index
```

```
Index(['fixed acidity', 'volatile acidity', 'citric acid', 'residual
sugar',
       'chlorides', 'free sulfur dioxide', 'total sulfur dioxide',
'density',
       'pH', 'sulphates', 'alcohol'],
      dtype='object')
```

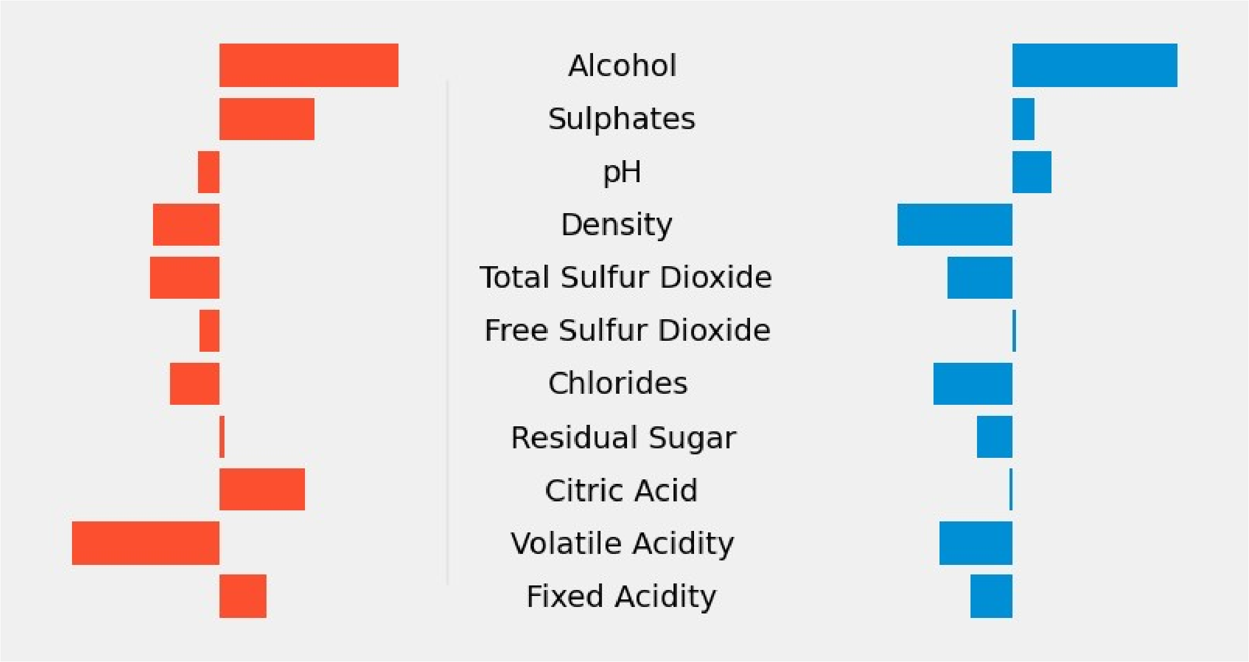
```
for label in x_coords:
    print(label)
```

```
Alcohol
Sulphates
pH
Density
Total Sulfur Dioxide
Free Sulfur Dioxide
Chlorides
Residual Sugar
Citric Acid
Volatile Acidity
Fixed Acidity
```

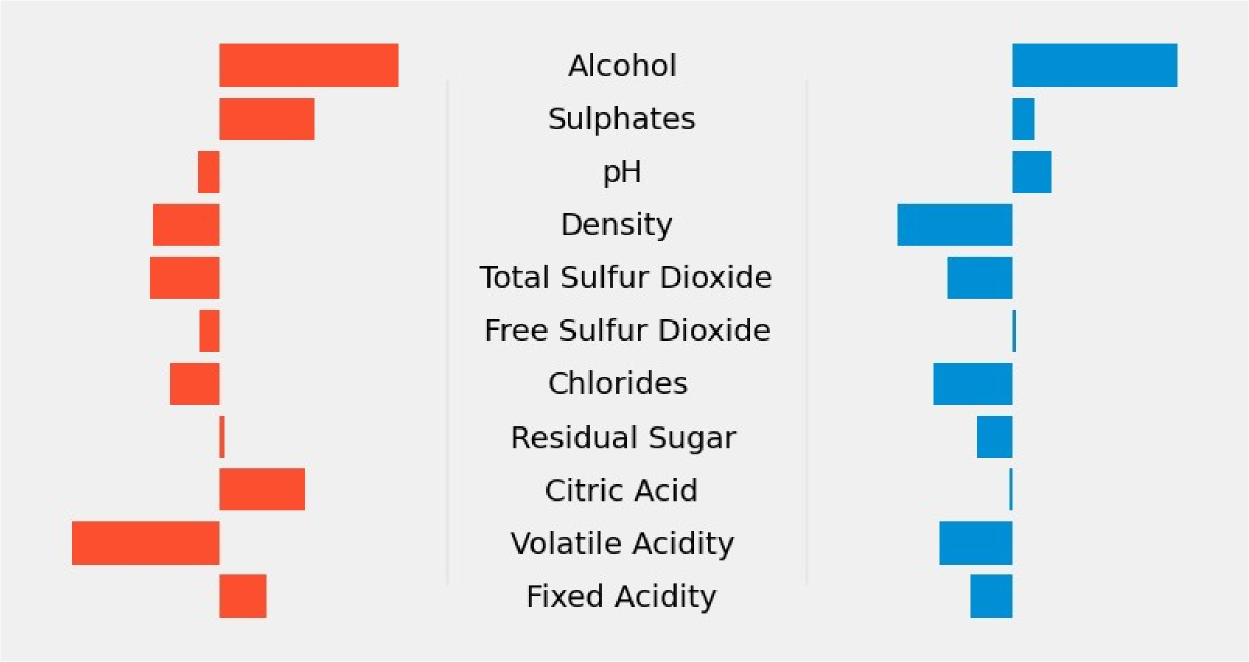
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1
plt.show()
```



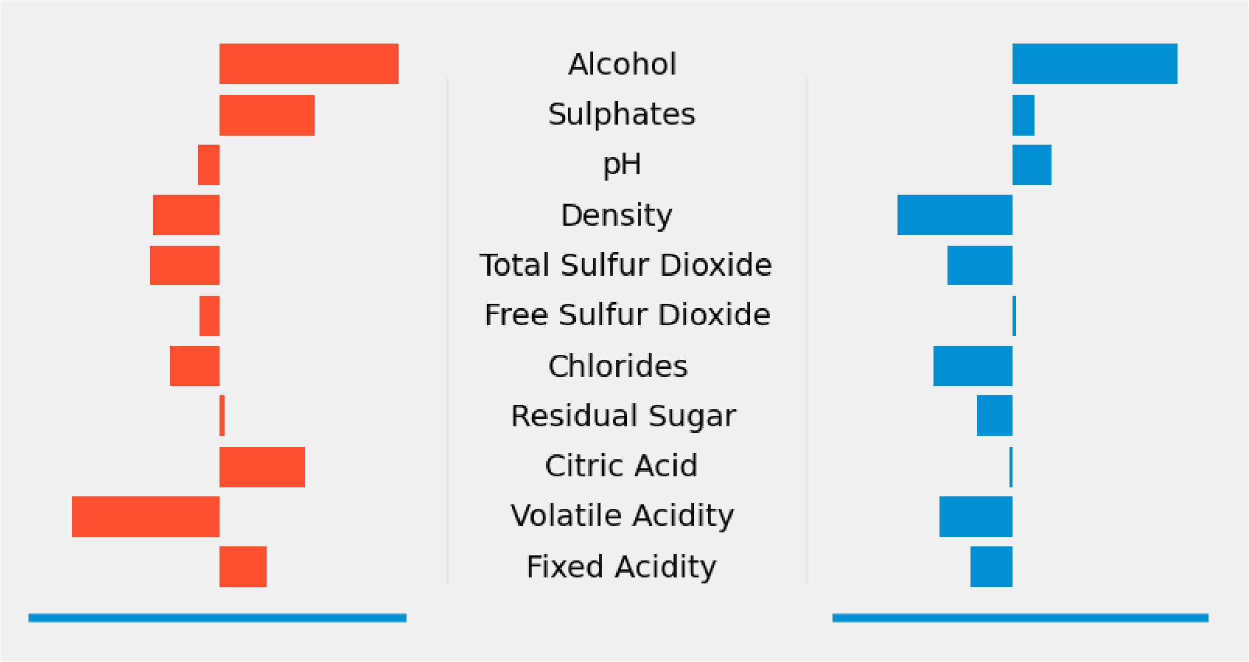
```python
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax
= 0.9)
plt.show()
```



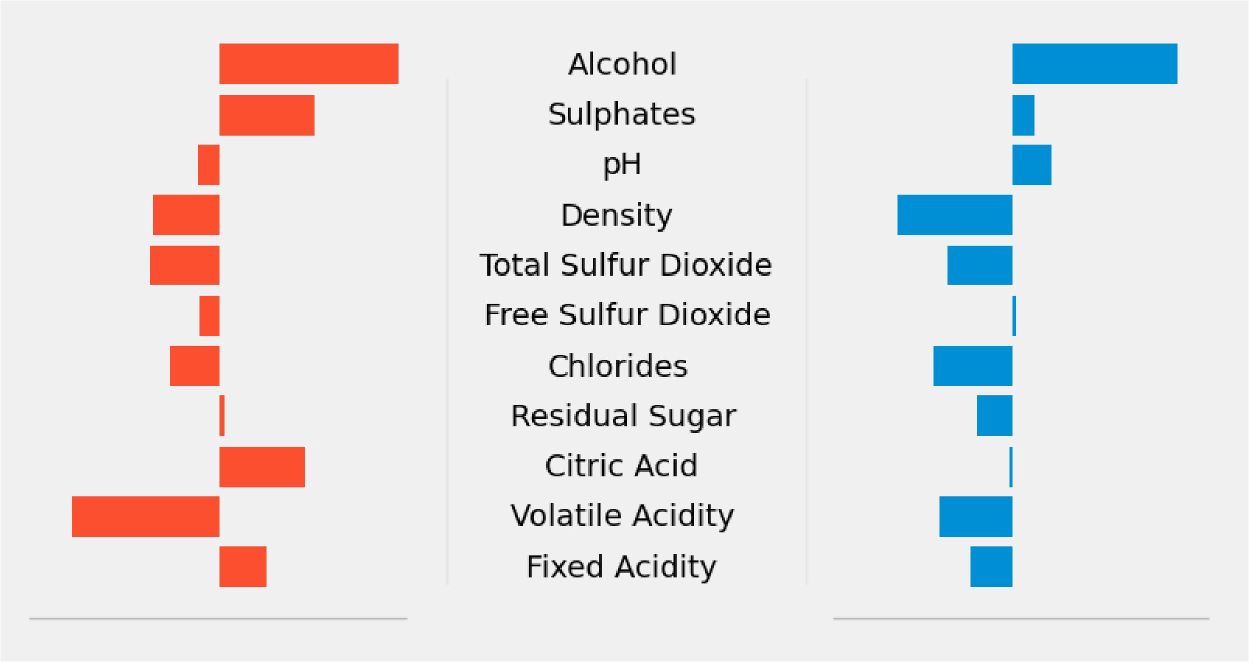
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax
= 0.9)
ax.axvline(1.45,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1,
ymax = 0.9)
plt.show()
```



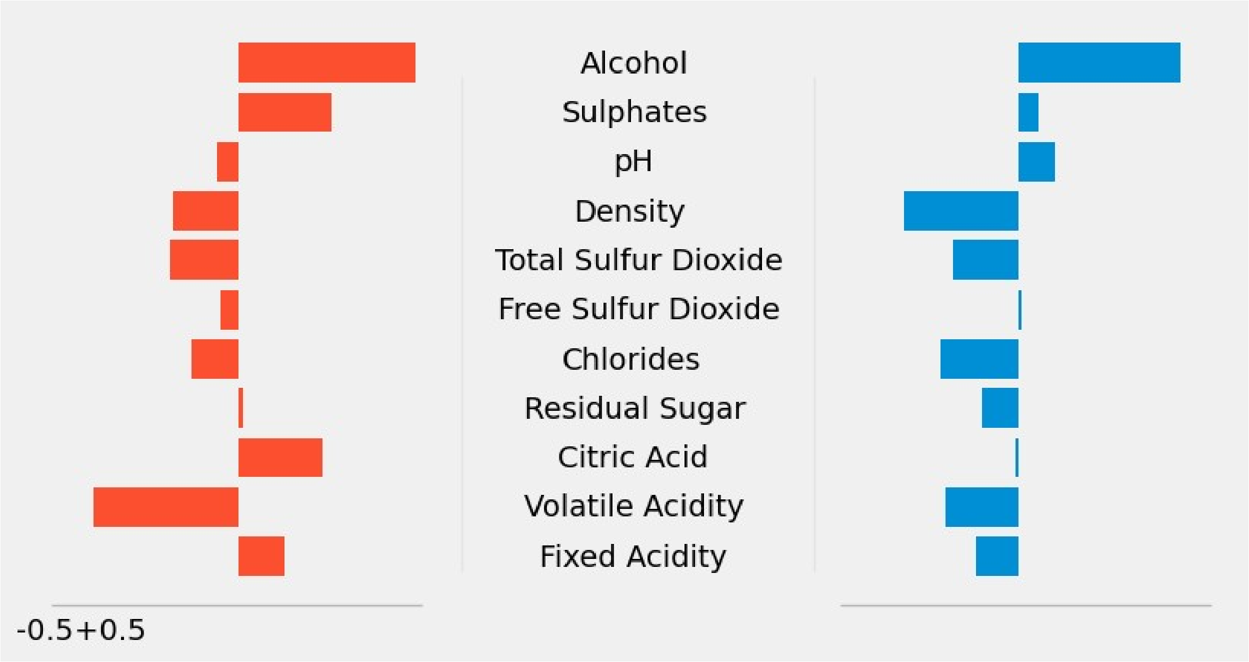
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax
= 0.9)
ax.axvline(1.45,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1,
ymax = 0.9)

ax.axhline(-1, xmin = 0.01, xmax = 0.32)
ax.axhline(-1, xmin = 0.67, xmax = 0.98)


plt.show()
```



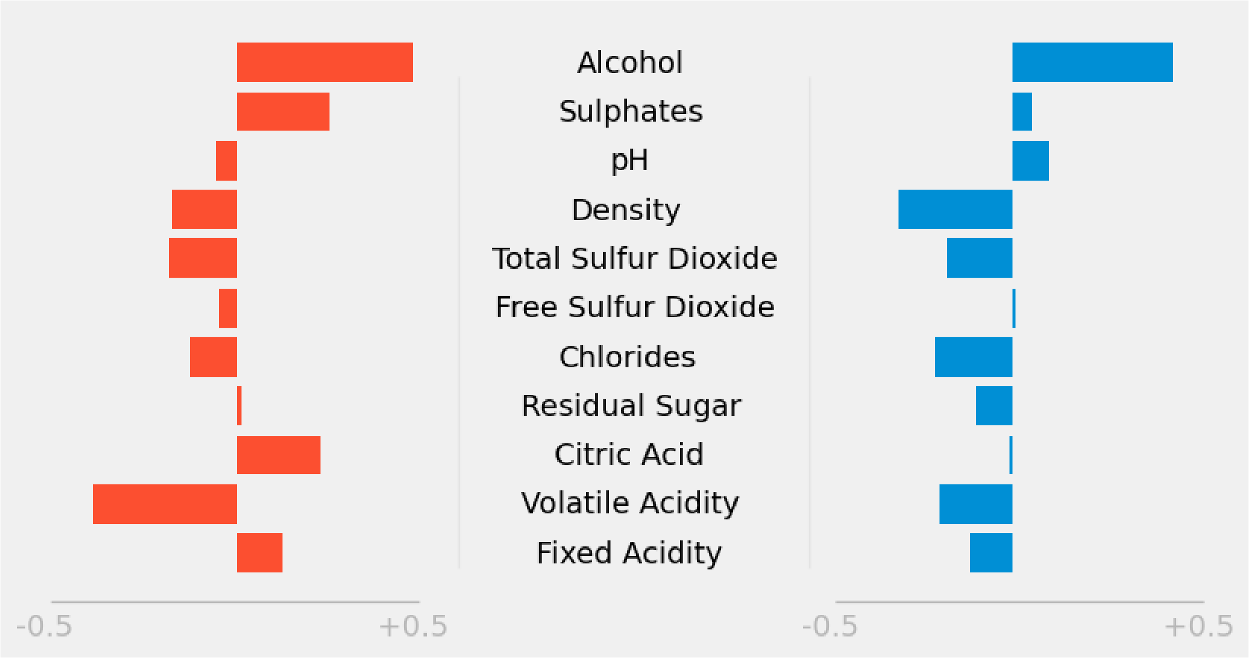
```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax
= 0.9)
ax.axvline(1.45,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1,
ymax = 0.9)

ax.axhline(-1, xmin = 0.01, xmax = 0.32, c = "grey", linewidth = 1,
alpha = 0.5)
ax.axhline(-1, xmin = 0.67, xmax = 0.98, c = "grey", linewidth = 1,
alpha = 0.5)


plt.show()
```



```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax
= 0.9)
ax.axvline(1.45,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1,
ymax = 0.9)

ax.axhline(-1, xmin = 0.01, xmax = 0.32, c = "grey", linewidth = 1,
alpha = 0.5)
ax.axhline(-1, xmin = 0.67, xmax = 0.98, c = "grey", linewidth = 1,
alpha = 0.5)
ax.text(x =-0.7 , y =-1.7 , s ="-0.5"+ "+0.5")

plt.show()
```



```
fig,ax = plt.subplots(figsize = (9,5))

ax.barh(white_corr.index, white_corr, left = 2)
ax.barh(red_corr.index, red_corr.values, left = -0.1)
ax.grid(visible = False)
ax.set_xticklabels([])
ax.set_yticklabels([])

x_coords =  coord.x_coords
y_coord =  coord.y_coord

for label, x_coord in x_coords.items():
    ax.text(x= x_coord,y = y_coord, s = label)
    y_coord -=1

ax.axvline(0.5,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax = 0.9)
ax.axvline(1.45,c= "grey", alpha = 0.1, linewidth = 1, ymin = 0.1, ymax = 0.9)

ax.axhline(-1, xmin = 0.01, xmax = 0.32, c = "grey", linewidth = 1, alpha = 0.5)
ax.axhline(-1, xmin = 0.67, xmax = 0.98, c = "grey", linewidth = 1, alpha = 0.5)
ax.text(x =-0.7 , y =-1.7 , s ="-0.5"+ " "*32 + "+0.5", color = "grey", alpha = 0.5)
ax.text(x =1.43 , y =-1.7 , s ="-0.5"+ " "*32 + "+0.5", color = "grey", alpha = 0.5)

plt.show()
```


Alcohol
Sulphates
pH
Density
Total Sulfur Dioxide
Free Sulfur Dioxide
Chlorides
Residual Sugar
Citric Acid
Volatile Acidity
Fixed Acidity
-0.5
+0.5
-0.5
+0.5