import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

months = ['07/2019', '08/2019', '09/2019', '10/2019', '11/2019']

searches = [50, 53, 59, 55, 62] # blue bars

direct = [39, 47, 42, 51, 51] # red bars

social = [70, 80, 90, 87, 92] # orange bars

df = pd.DataFrame({

'month': months,

'Searches': searches,

'Direct': direct,

'Social Media': social

})

n\_groups = len(df)

bar\_width = 0.22

index = np.arange(n\_groups)

plt.figure(figsize=(11,6.2))

b1 = plt.bar(index - bar\_width, df['Searches'], bar\_width, label='Searches')

b2 = plt.bar(index, df['Direct'], bar\_width, label='Direct')

b3 = plt.bar(index + bar\_width, df['Social Media'], bar\_width, label='Social Media')

def autolabel(bars, fmt='{:.0f}'):

for bar in bars:

h = bar.get\_height()

plt.text(bar.get\_x() + bar.get\_width()/2.0, h + 2, fmt.format(h), ha='center', va='bottom', fontsize=9)

autolabel(b1)

autolabel(b2)

autolabel(b3)

plt.xticks(index, df['month'])

plt.xlabel('months')

plt.ylabel('visitors\nin thousands', labelpad=10)

plt.title('Visitors by web traffic sources', pad=12)

plt.ylim(0, 105)

plt.legend(loc='lower center', bbox\_to\_anchor=(0.5, -0.15), ncol=3)

plt.gca().spines['top'].set\_visible(False)

plt.gca().spines['right'].set\_visible(False)

plt.gca().yaxis.grid(True, linestyle='--', linewidth=0.5, alpha=0.6)

plt.tight\_layout()

plt.savefig('visitors\_by\_source.png', dpi=150, bbox\_inches='tight')

plt.show()

print("Saved file: visitors\_by\_source.png")