import matplotlib.pyplot as plt

from rectpack import newPacker

# Define the dimensions of the bins

bins = [(100, 100), (100, 100), (100, 100)]  # Three bins of size 100x100

# Define the rectangles to pack

rectangles = [(50, 50), (60, 60), (30, 30), (40, 40), (70, 70), (50, 50),(50,50), (30, 30), (30, 30), (40,40), (50,40),(40,40)]

# Initialize the packer

packer = newPacker()

# Add the rectangles to the packer

for r in rectangles:

    packer.add\_rect(\*r)

# Add the bins to the packer

for b in bins:

    packer.add\_bin(\*b)

# Pack the rectangles into the bins

packer.pack()

# Plotting the results

fig, axes = plt.subplots(1, len(bins), figsize=(15, 5))

for i, abin in enumerate(packer):

    ax = axes[i]

    ax.set\_xlim(0, bins[i][0])

    ax.set\_ylim(0, bins[i][1])

    ax.set\_title(f"Bin {i + 1}")

    for rect in abin:

        x, y, w, h = rect.x, rect.y, rect.width, rect.height

        ax.add\_patch(plt.Rectangle((x, y), w, h, edgecolor='black', facecolor='blue', fill=True))

        ax.text(x + w/2, y + h/2, f"{w}x{h}", ha='center', va='center', color='white')

plt.tight\_layout()

plt.show()