Write a Python program to draw a scatter plot for three different groups comparing weights and heights

PROGRAM:

```
import matplotlib.pyplot as plt

import numpy as np

# Set a random seed for reproducibility

np.random.seed(42)

# Generate random data for three groups: Group 1, Group 2, Group 3

num_people_per_group = 50

# Group 1

heights_group1 = np.random.normal(loc=170, scale=5, size=num_people_per_group)

weights_group1 = heights_group1 * 0.6 + np.random.normal(loc=0, scale=5,
size=num_people_per_group)

# Group 2

heights_group2 = np.random.normal(loc=160, scale=7, size=num_people_per_group)

weights_group2 = heights_group2 * 0.5 + np.random.normal(loc=0, scale=8,
size=num_people_per_group)

# Group 3

heights_group3 = np.random.normal(loc=175, scale=6, size=num_people_per_group)

weights_group3 = heights_group3 * 0.55 + np.random.normal(loc=0, scale=6,
size=num_people_per_group)

# Create a scatter plot for three groups

plt.scatter(heights_group1, weights_group1, label='Group 1', alpha=0.7)

plt.scatter(heights_group2, weights_group2, label='Group 2', alpha=0.7)

plt.scatter(heights_group3, weights_group3, label='Group 3', alpha=0.7)

# Set labels and title

plt.xlabel('Height (cm)')

plt.ylabel('Weight (kg)')

plt.title('Scatter Plot: Heights vs Weights for Three Groups')
```

```
# Show legend

plt.legend()

# Show the plot

plt.show()
```

OUTPUT: