

Write a Python program to create a stacked bar plot with error bars.

Note: Use bottom to stack the women's bars on top of the men's bars.

Sample Data:

Means (men) = (22, 30, 35, 35, 26)

Means (women) = (25, 32, 30, 35, 29)

Men Standard deviation = (4, 3, 4, 1, 5)

Women Standard deviation = (3, 5, 2, 3, 3)

PROGRAM:

```
import matplotlib.pyplot as plt
```

```
import numpy as np
```

```
# Sample Data
```

```
means_men = np.array([22, 30, 35, 35, 26])
```

```
means_women = np.array([25, 32, 30, 35, 29])
```

```
std_dev_men = np.array([4, 3, 4, 1, 5])
```

```
std_dev_women = np.array([3, 5, 2, 3, 3])
```

```
# Number of groups
```

```
num_groups = len(means_men)
```

```
# X values for the bar plots
```

```
indices = np.arange(num_groups)
```

```
# Create the stacked bar plot with error bars
```

```
plt.bar(indices, means_men, yerr=std_dev_men, label='Men', capsize=5)
```

```
plt.bar(indices, means_women, bottom=means_men, yerr=std_dev_women, label='Women',  
capsize=5)
```

```
# Set labels and title
```

```
plt.xlabel('Groups')
```

```
plt.ylabel('Scores')
```

```
plt.title('Stacked Bar Plot with Error Bars')
```

```
plt.xticks(indices, ['Group {}'.format(i+1) for i in range(num_groups)])
```

```
# Show legend
```

```
plt.legend()
```

```
# Show the plot
```

```
plt.show()
```

OUTPUT:

