\*\*Documentation for the Python program "plot\_sense"\*\*

The `plot\_sense` function creates a contour plot (heatmap) from the given data arrays `x`, `y`, and `z`. Here are the details regarding its usage and functionality:

1. \*\*Function Parameters\*\*:

- `x`: A list or array of x-values.

- `y`: A list or array of y-values.

- `z`: A 2D matrix of z-values representing the contour heights.

- `scale1` and `scale2`: Scaling options for the y-axis and x-axis (either "Exponential" or "Linear").

- `y\_axis` and `x\_axis`: Labels for the y-axis and x-axis.

- `outputname`: The title of the plot.

2. \*\*How It Works\*\*:

- The function creates a 2D grid from `x` and `y` using `np.meshgrid`.

- A contour plot is generated using `ax.contourf`, with `z` as the height values.

- A colorbar is added using `fig.colorbar(cp)`.

- The axes are configured based on the scaling options and axis labels.

- The plot is displayed using `plt.show()`.

3. \*\*Example Usage\*\*:

```python

import numpy as np

import matplotlib.pyplot as plt

# Example data

x = np.linspace(0, 10, 100)

y = np.linspace(0, 5, 50)

z = np.sin(X) + np.cos(Y)

# Calling the function

plot\_sense(x, y, z, scale1='Exponential', scale2='Linear', y\_axis='Y Values', x\_axis='X Values', outputname='Contour Plot')

```

4. \*\*Notes\*\*:

- Ensure that the required libraries (`numpy` and `matplotlib`) are installed.

- Customize the data and axis labels according to your application.