

In []:

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In [3]: import numpy as np
import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import Axes3D

x = np.linspace(-10, 10, 100)
y = np.linspace(-10, 10, 100)
x, y = np.meshgrid(x, y)
z = np.sin(np.sqrt(x**2 + y**2))

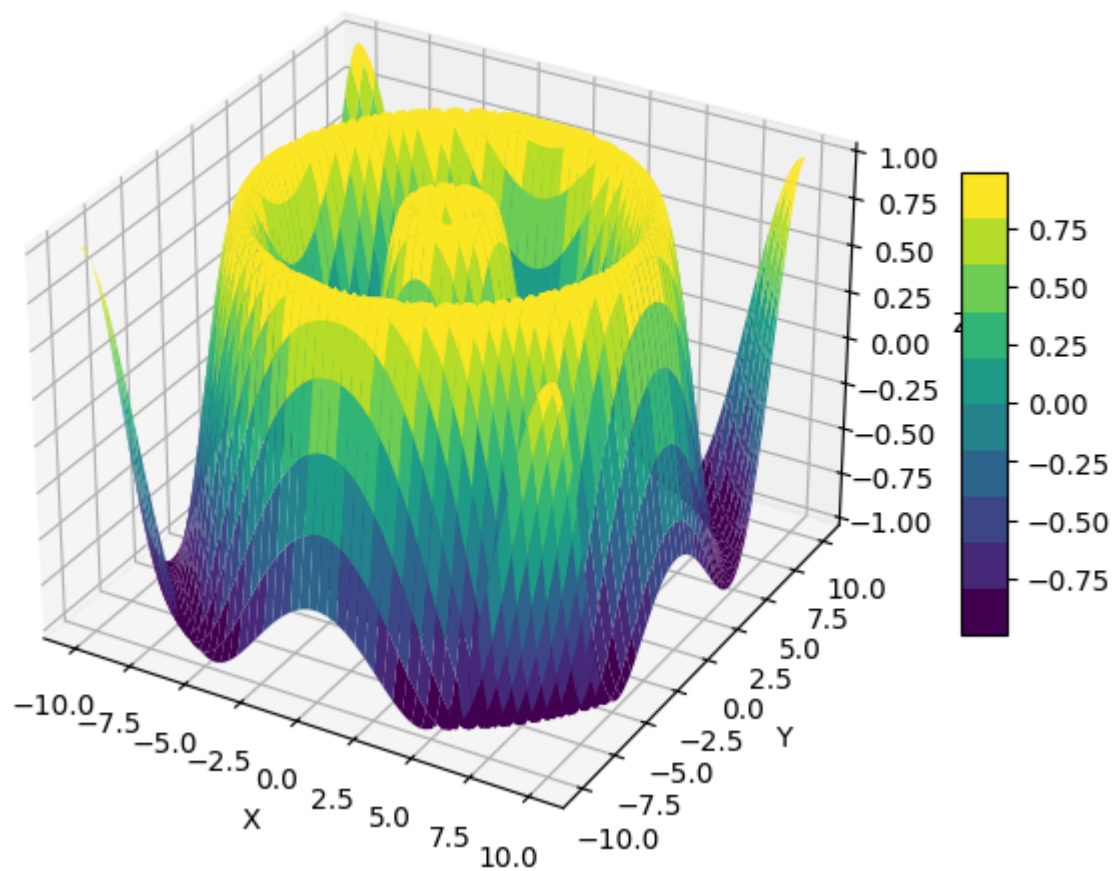
cmap = plt.cm.get_cmap('viridis', 10)
cmap.set_under('white')
cmap.set_over('black')

fig = plt.figure(figsize=(8, 6))
ax = fig.add_subplot(111, projection='3d')
surf = ax.plot_surface(x, y, z, cmap=cmap, linewidth=0, antialiased=True)
ax.set_xlabel('X')
ax.set_ylabel('Y')
ax.set_zlabel('Z')
ax.set_title('3D Surface Plot with Custom Color Map and Shading')
fig.colorbar(surf, shrink=0.5, aspect=10)
plt.show()
```

C:\Users\VIKASH KUMAR SINGH\AppData\Local\Temp\ipykernel_15416\3483031409.py:10: MatplotlibDeprecationWarning: The get_cmap function was deprecated in Matplotlib 3.7 and will be removed in 3.11. Use ``matplotlib.colormaps[name]`` or ``matplotlib.colors.get_cmap()`` or ``pyplot.get_cmap()`` instead.

```
cmap = plt.cm.get_cmap('viridis', 10)
```

3D Surface Plot with Custom Color Map and Shading



In []: