

In [6]:

```
import numpy as np
import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import Axes3D
```

In [15]:

```
#3.2 (b)
#Box
x1 = np.arange(-2, 2, 0.2)
x2 = np.arange(-2, 2, 0.2)
x1, x2 = np.meshgrid(x1, x2)
#Berechnen f
f = x1 * x2
#Berechnen f^
x1_u = x1.min()
x1_o = x1.max()
x2_u = x2.min()
x2_o = x2.max()
x1x2_u = x1.min() * x2.min()
x1x2_o = x1.max() * x2.max()
y1 = x1_u * x2 + x2_u * x1 - x1x2_u
y2 = x1_o * x2 + x2_o * x1 - x1x2_o
#f^ betraegt immer die Maximalwerte zwischen y1 und y2
f2 = []
for i in range(0, len(x1)):
    for j in range(0, len(x1)):
        f2.append(max(y1[i, j], y2[i, j]))
#Plot
fig = plt.figure()
ax = fig.gca(projection='3d')
ax1 = fig.gca(projection='3d')
surf = ax.scatter(x1, x2, f, color='red')
surf1 = ax1.scatter(x1, x2, f2, color='green')
plt.title('Aufgabe S3.2')
plt.show()
```

