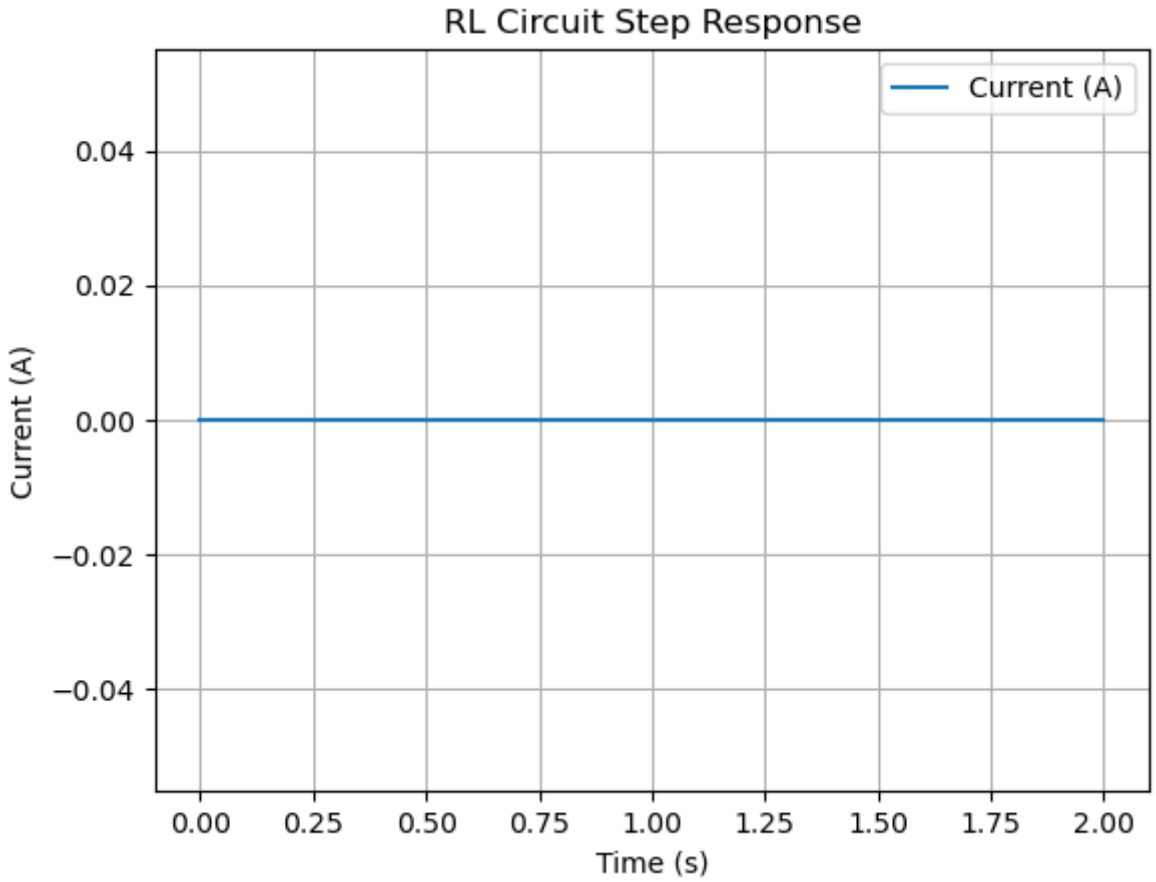
In [3]:
```
# Assuming that the equivalent circuit for the solenoid is simply an inductor and resistor in series, ap
```

In [4]:
```
import numpy as np
from scipy.integrate import odeint
import matplotlib.pyplot as plt

# Define the RL circuit parameters
R = 10  # Resistance (ohms)
L = 20  # Inductance (henries)

# Define the differential equation for the RL circuit
def rl_circuit(y, t):
    i, = y
    di_dt = (-R/L) * i  # Differential equation for RL circuit
    return [di_dt]

# Initial condition
i0 = 0

# Time points
t = np.linspace(0, 2, 100)  # Adjust the time range as needed

# Simulate the RL circuit response to a step change in voltage
sol = odeint(rl_circuit, [i0], t)

# Plot the results
plt.plot(t, sol[:, 0], label='Current (A)')
plt.title('RL Circuit Step Response')
plt.xlabel('Time (s)')
plt.ylabel('Current (A)')
plt.legend()
plt.grid(True)
plt.show()
```


RL Circuit Step Response
Current (A)
0.04
0.02
0.00
−0.02
−0.04
Current (A)
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
Time (s)

In [ ]: