

```

eq1 = w4(r1, C, D)
eq2 = w1(r1, C, D)
eq3 = w(r2, C, D)
eq4 = w1(r2, C, D)

return [eq1, eq2, eq3, eq4]

initial_guess = [1, 1, 1, 1]
solution = fsolve(equations_to_solve, initial_guess, args=(r1, r2, D))
print("Решение системы:")
print("C1 =", solution[0])
print("C2 =", solution[1])
print("C3 =", solution[2])
print("C4 =", solution[3])

def Mr(r, C, D, m):
    return D * (w2(r, C, D) + (m/r) * w1(r, C, D))

r_values = np.linspace(r1, r2, 100)
Mr_values = [Mr(r, solution, D, m) for r in r_values]

plt.plot(r_values, Mr_values, color='blue', label='Mr(r)')
plt.fill_between(r_values, Mr_values, color='gray', alpha=0.5, hatch='|', edgecolor='black')
plt.xlabel('r')
plt.ylabel('Mr(r)')
plt.title('Изгибающий момент в радиальном направлении')
plt.grid(True)
plt.legend()
plt.show()

```