

```

# Stress when depth is constant
Q = float(input("Enter the value of load in kN : "))
n = int(input("Number of data values of radial distance : "))
p1 = 8.43159265359
Z = float(input("Depth : "))
Z = [Z]
for i in range(1, n+1):
    print("Enter radial distance in m : ", format(i))
    value_1 = float(input())
    append(value_1)
    stress = ((1/3)*Q/2*(pi*(Z**2)) + ((1/(1+((r/value_1)**2))))**2.5)
    print("Stress : ", stress, "kN/m^2")

# Enter the value of load in kN : 2500
# Number of data values of radial distance : 5
# Enter radial distance in m :
1
"Stress : 0.0000000000000000 kN/m^2"
Enter radial distance in m :
2
"Stress : 25.000000000000000 kN/m^2"
Enter radial distance in m :
3
"Stress : 10.000000000000000 kN/m^2"
Enter radial distance in m :
4
"Stress : 15.229022902290229 kN/m^2"
Enter radial distance in m :
5
"Stress : 8.871275810212231 kN/m^2"

# Stress when Radial is constant
Q = float(input("Enter the value of load in kN : "))
n = int(input("Number of data values of depth : "))
p1 = 8.43159265359
r = float(input("Radial Distance : "))
Z = [Z]
for i in range(1, n+1):
    print("Enter depth in m : ", format(i))
    value_2 = float(input())
    append(value_2)
    stress = ((1/3)*Q/2*(pi*(value_2*value_2))*((1/(1+((r/value_2)**2))))**2.5)
    print("Stress : ", stress, "kN/m^2")

# Enter the value of load in kN : 2500
# Number of data values of depth : 5
# Radial Distance : 5
# Enter depth in m :
1
"Stress : 0.0000000000000000 kN/m^2"
Enter depth in m :
2
"Stress : 2.1085135000000000 kN/m^2"
Enter depth in m :
3
"Stress : 4.7813200000000000 kN/m^2"
Enter depth in m :
4
"Stress : 7.007419999999999 kN/m^2"
Enter depth in m :
5
"Stress : 8.440654000000000 kN/m^2"
Enter depth in m :
6
"Stress : 8.871275810212231 kN/m^2"

# Calculating the Stress By Boussinesq's theory
Q = int(input("Enter the value of given load : "))
z = int(input("Enter the distance of vertical stress : "))
r = int(input("Enter the distance of horizontal stress : "))
stress = ((1/3)*Q*(1/(1+(r/z)**2))**2.5)/(2*(1.4*(z**2)))
print("The value of stress is", stress)

# Enter the value of given load : 2500
# Enter the distance of vertical stress : 6
# Enter the distance of horizontal stress : 5
# The value of stress is 8.87627520313446

```