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# By submitting this assignment, I agree to the following:
# "Aggies do not lie, cheat, or steal, or tolerate those who do."
# "I have not given or received any unauthorized aid on this assignment."
#
# Name:      HUY Q LAI      132000359
# Section:   ENGR-102-569
# Assignment: Lab 5b Activity 1
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```

Young's Modulus: $E = 43/0.01 = 4300$

$m_{BC} = (43.5 - 43)/(.06 - .01) = 10$

$m_{CD} = (60 - 43.5)/(.18 - .06) = 137.5$

$m_{DE} = (51 - 60)/(.27 - .18) = -100$

out_str = "The stress is approximately {:.1f}"

stress

strain

if $0 \leq \text{stress} < .01$:

 strain = E * stress

elif $.01 \leq \text{strain} < .06$:

 stress = $m_{BC} * (\text{strain} - .01) + 43$

elif $.06 \leq \text{strain} < .18$:

 stress = $m_{CD} * (\text{strain} - .06) + 43.5$

elif $.18 \leq \text{strain} < .27$:

 stress = $m_{DE} * (\text{strain} - .18) + 60$

else:

 print Strain is undefined in that region

 terminate program

print out_str formatted with strain

Test cases:

0.001	4.3
0.01	43.0
0.05	43.4
0.06	43.5
0.1	49.0
0.15	55.9
0.18	60.0
0.21	57.0
0.27	51.0