

C Program to find the maximum location and max value  
C of deflection for a simply supported beam  
C\*\*\*\*\*

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PROGRAM BEAM
REAL P, E, I, L,x, y, theta
PRINT*, 'Input P,L, E, and I?'
READ*, P, L,E, I
x=L/4
TOL=0.000001
DO WHILE(theta .LE. TOL)
x=x+0.0001
theta=(-P*x**2/8+P*L*x/4-11*P*L**2/128)/(E*I)
END Do
y=(-P*x**3/24+P*L*x**2/8-11*P*L**2*x/128+P*L**3/384)
+ /(E*I)
PRINT*, 'MAX x = ', x
PRINT*, 'MAX deflection y = ', y
END
```