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MATRIC: 18/ENG06/019
DEPARTMENT: MECHANICAL ENGINEERING

I Smaller section (V_1) = 5m/s
Larger section (V_2) = 2m/s
Height (h) = 2cm

Pressure head at smaller section (P_1/ω) = 2.5 m
Head Loss (H_L) = $\frac{0.35 (V_1 - V_2)^2}{2g}$

Using Bernoulli's equation

$$\frac{P_1}{\omega} + \frac{V_1^2}{2g} + Z_1 = \frac{P_2}{\omega} + \frac{V_2^2}{2g} + Z_2 + h_L$$

$$2.5 + \frac{5^2}{2 \times 9.81} + 2 = \frac{P_2}{\omega} + \frac{2^2}{2 \times 9.81} + \frac{0.35 (5-2)^2}{2g}$$

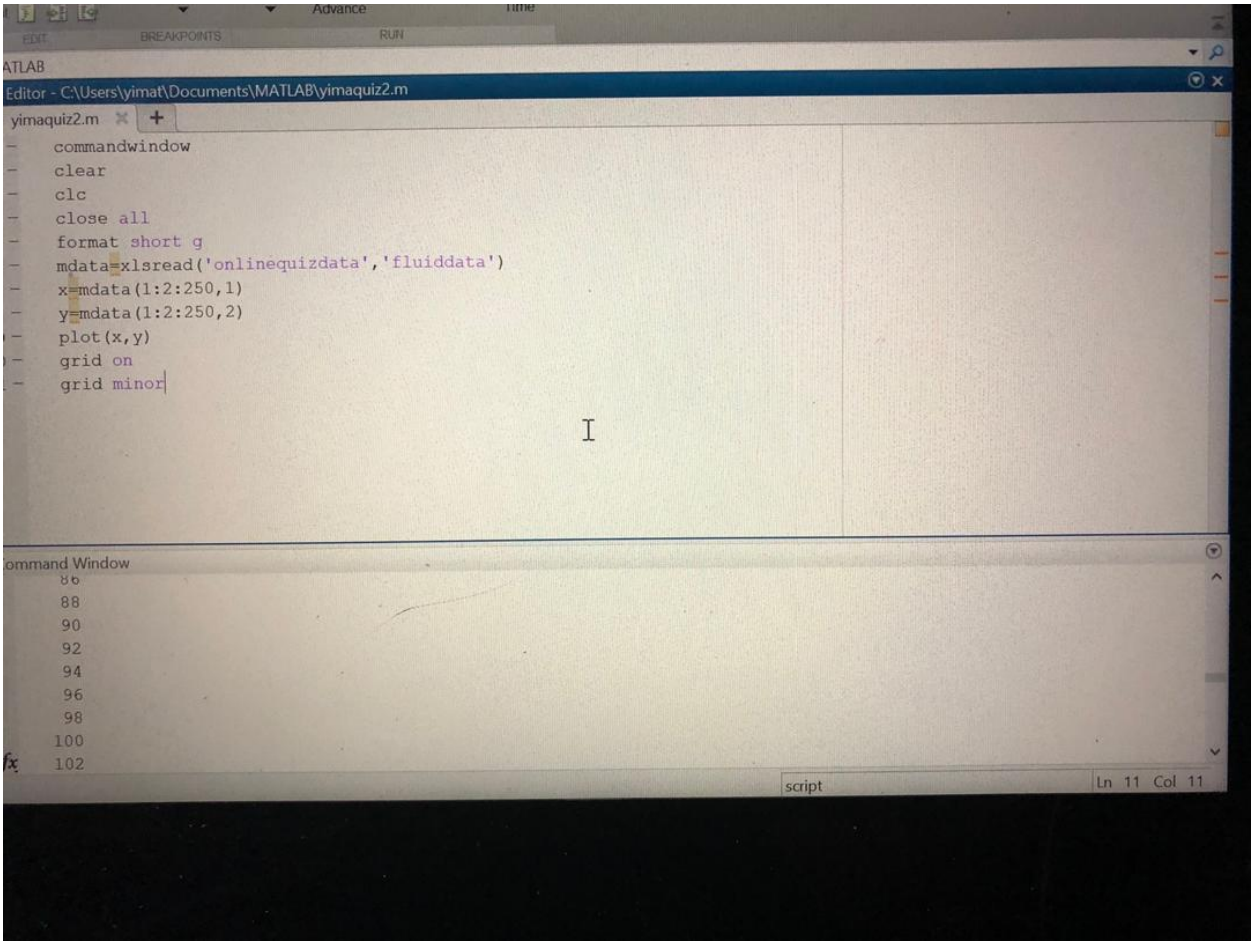
$$2.5 + 1.274 + 2 = \frac{P_2}{\omega} + 0.2039 + 0.1606$$

$$5.774 = \frac{P_2}{\omega} + 0.3645$$

$$\frac{P_2}{\omega} = 5.774 - 0.3645 = 5.4095 \approx 5.41$$

$$\frac{P_2}{\omega} \approx 5.41\ m$$

The pressure head at second section is 5.41m


Advance
EDIT
BREAKPOINTS
RUN
ATLAB
Editor - C:\Users\yimat\Documents\MATLAB\yimaquiz2.m
yimaquiz2.m
commandwindow
clear
clc
close all
format short g
mdata=xlsread('onlinequizdata','fluiddata')
x=mdata(1:2:250,1)
y=mdata(1:2:250,2)
plot(x,y)
grid on
grid minor
ommand Window
86
88
90
92
94
96
98
100
102
script
Ln 11 Col 11