Assignment

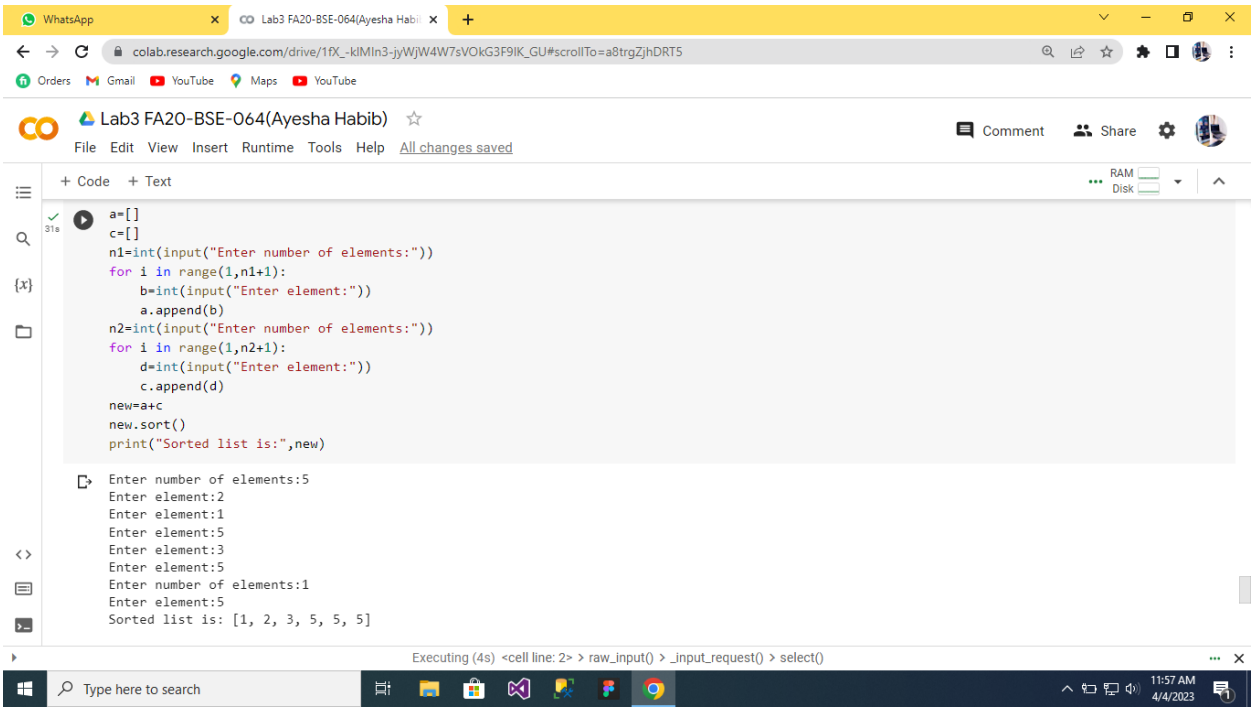
Submitted To: Mam Yasmeen Jana

Submitted By: Ayesha Habib

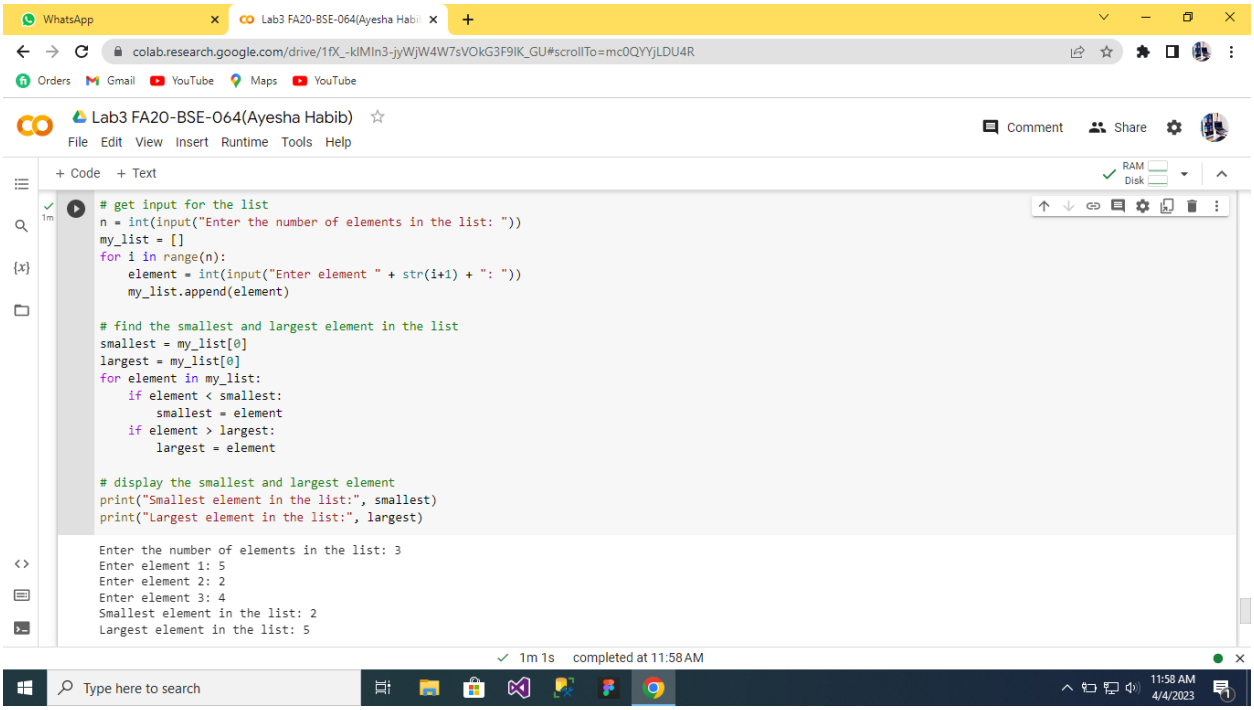
Subject: AI

Date: 4/4/2023

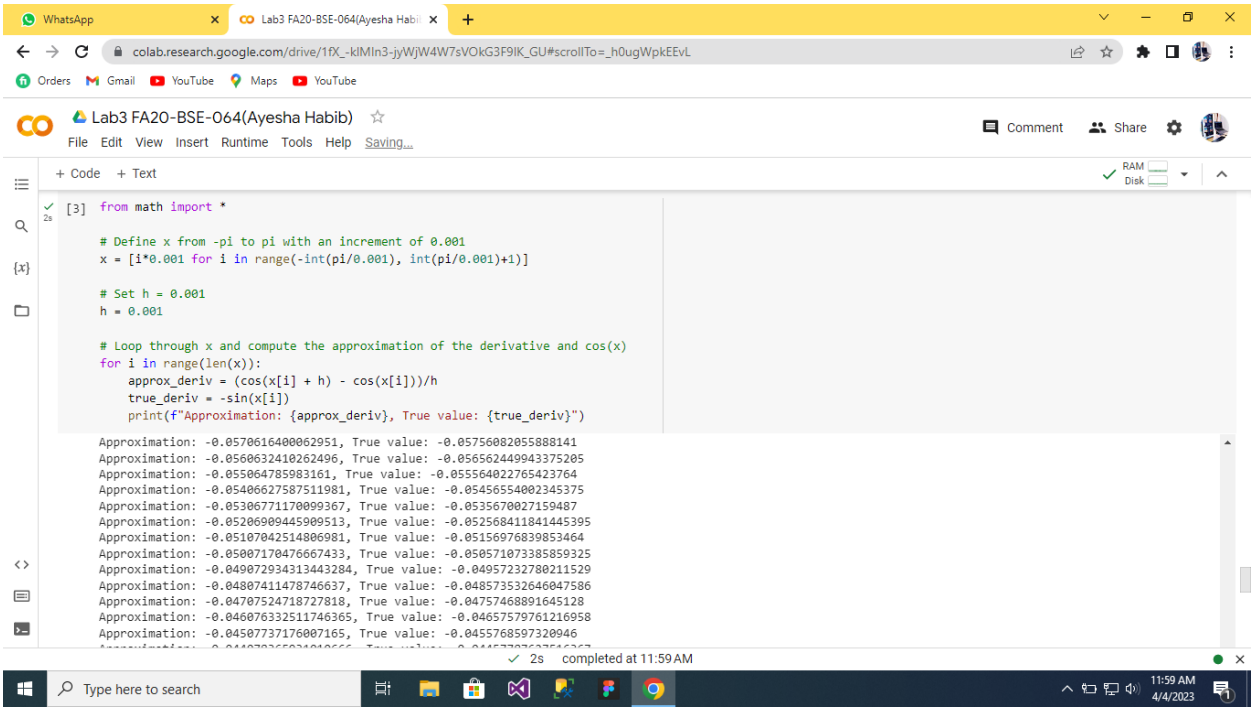
Activity 1



Activity 2



Activity 3


WhatsApp
Lab3 FA20-BSE-064(Ayesha Habi
colab.research.google.com/drive/1fX_-klMln3-jyWjW4W7sVOkG3F9lK_GU#scrollTo=_h0ugWpkEEvL
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Lab3 FA20-BSE-064(Ayesha Habib)
File Edit View Insert Runtime Tools Help Saving...
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[3] from math import *
# Define x from -pi to pi with an increment of 0.001
x = [i*0.001 for i in range(-int(pi/0.001), int(pi/0.001)+1)]
# Set h = 0.001
h = 0.001
# Loop through x and compute the approximation of the derivative and cos(x)
for i in range(len(x)):
approx_deriv = (cos(x[i] + h) - cos(x[i]))/h
true_deriv = -sin(x[i])
print(f"Approximation: {approx_deriv}, True value: {true_deriv}")
Approximation: -0.0570616400062951, True value: -0.05756082055888141
Approximation: -0.0560632410262496, True value: -0.056562449943375205
Approximation: -0.055064785983161, True value: -0.055564022765423764
Approximation: -0.05406627587511981, True value: -0.05456554002345375
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Approximation: -0.046076332511746365, True value: -0.04657579761216958
Approximation: -0.04507737176007165, True value: -0.0455768597320946
2s completed at 11:59 AM
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11:59 AM
4/4/2023