

5 Homework

You should write a C program which calculates the integrals of the functions below by using the the method mentioned in your text book (Trapezoidal Rule). The functions are shown below and they should be calculated using the parameters written in the parenthesis:

$$1. y = \cos(x^2) + 2x^3 \quad (a : 0, b : 2, n : 10) \quad (1)$$

$$2. y = \frac{2}{1+x^2} \quad (a : 0, b : 2, n : 10) \quad (2)$$

$$3. y = x - 3 \quad (a : 0, b : 2, n : 10) \quad (3)$$

User should select the function to be calculated from the menu. The menu should look like;

Enter the function number you want to calculate (1, 2 or 3)?
ENTER YOUR= CHOICE

Program should write the output values to output.txt file as a table as follows (written results are just for illustration, not real results):

<u>a</u>	<u>b</u>	<u>Trapezoidal</u>
0	2	1.1122