

MAT 335E Programming Algorithms

Lab-1 / CRN : 10611

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1 Question 1

You can use Cramer's rule to solve the following 2×2 system of linear equations:

$$ax + by = e$$

$$cx + dy = f$$

$$x = \frac{ed - bf}{ad - bc} \quad y = \frac{af - ec}{ad - bc}$$

Write a Java program that solves the following equation and displays the value for x and y :

$$3.4x + 50.2y = 44.5$$

$$2.1x + 0.55y = 5.9$$

2 Question 2

There is 100 cm^3 water in a cylinder with a height of 10 cm and a radius of 2 cm . Three of the spherical balls which made by iron with a radius of 1.5 cm have been thrown into the water. Write a Java program that finds the amount of overflowing water and prints it on the screen.

(Volume of Cylinder= $\pi \times r_c^2 \times h$, Volume of Sphere= $\frac{4}{3} \times \pi \times r_s^3$, $\pi = 3.14$)