CS110: Computer Programming Lab

Department of CSE
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Module 01 Stage 02 Exercise 10

Please read Module 01 Stage 02 Practice drill document before you continue with this problem.

Problem description

Write a program that are assigned 12 numbers representing 3 simultaneous equations in three variables.

```
Cx1.X + Cy1.Y + Cz1.Z = C1
Cx2.X + Cy2.Y + Cz2.Z = C2
Cx3.X + Cy3.Y + Cz3.Z = C3
```

Then solves the equations for values of `X`, `Y`, and `Z`. You can assume that the equations have solution and do not suffer from any singularity issues.

Guiding instructions

As we know the equations are solved by first elimination unknown Z from two of the equations using the third equation. That is, from the 12 variables carrying initial coefficients and values of the equations, we compute 4 new coefficients and 2 summed values for two new equations in variables X and Y.

```
Cx2x1.X + Cy2y1.Y = C2C1
Cx3x1.X + Cy3y1.Y = C3C1
```

These variables can be computed through 6 assignment statements using expressions based on the original 12 variables.

Then use, these 6 variables to eliminate variable Y in one of the equations. The equation in the one variable that results from elimination of variable Y, will help you compute the value of variable X.

Use this result to determine the value of variable Y. Finally, find value for variable Z.