CPE 200 (Numerical Analysis)

Assignment # 2– CLO4

Due Date: Saturday 14th, November 2020

**Gauss\_Seidel Algorithm**

1. Write a C++ program to solve the following system (matrices):

**Ax=b**

* The size of A is 3×3, x and b are vectors of size 3.
* The values of x are given by the following equation:

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| *Note: Use the following algorithm*   1. Initialize A [3][3] to its initial values 2. Initialize x [3] 3. Initialize b [3] 4. Read number of iterations   For (k=0; k<number of iterations; k++)  For (i=0; i<3; i++)  {sum=0;  For (j=0; j<3; j++)  {  If (i! =j)  Sum+=A[i][j] \*x[j];  }  x[i]=(b[i]-sum)/A[i][i];  } |

1. Use your program on previous part to solve question 8 on page 165 from textbook.