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| **Experiment No.** | 5 | | |

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| **AIM:** | To implement the Gauss Jacobi’s method in Scilab |
| **PROBLEMS** | |
| **CODE:** | printf("\n")  A=input("Enter the coefficents: ")  b=input("Enter the right-hand side C: ")  C=[A b]  function display(x, y, z, tempx, tempy, tempz)  printf(" Var\t| Initial\t| After\t|")  printf("\n-----------------------------------------")  printf("\n X\t| %f\t| %f\t|",x,tempx)  printf("\n Y\t| %f\t| %f\t|",y,tempy)  printf("\n Z\t| %f\t| %f\t|",z,tempz)  endfunction  function [x, y, z]=solve(matrix)  x=0  y=0  z=0  limit=0.000001  steps=100  for i=1:steps  tempx=(C(1,4)-C(1,2)\*y-C(1,3)\*z)/C(1,1)  tempy=(C(2,4)-C(2,1)\*x-C(2,3)\*z)/C(2,2)  tempz=(C(3,4)-C(3,1)\*x-C(3,2)\*y)/C(3,3)  diffX=tempx-x;  diffY=tempy-y;  diffZ=tempz-z;  if (abs(diffX)<=limit && abs(diffY)<=limit && abs(diffZ)<=limit)  break  end  printf("\n\n-->Step %d\n",i)  display(x,y,z,tempx,tempy,tempz)  x=tempx;  y=tempy;  z=tempz;  end  endfunction  [x,y,z]=solve(C)  printf("\n\nFinal result:\n\n X=> %f Y=> %f Z=> %f\n",x,y,z) |
| **OUTPUT TABLE:** | **Max possible iteration is 100**  **Var limit is used for precision in answer** |
| **RESULT:** Learnt about the Gauss Jacobi’s method and implemented in Scilab code. Also implement the limit variable which decides the precision/accuracy of the result. Also learnt how to use the abs method and void functions to print variables. | |