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GENERAL LAYOUT
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&Version File_Version="VERSION2.0"/

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                        FLUID PROPERTIES
                      (DIMENSIONLESS FORM)
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&Fluid_Properties  Heat_Transfer_Flow = .true.  ,  Reference_Density=
1.0,
                        Reference_Temperature= 1.0  ,
Reference_Dynamic_Viscosity= 0.71D-02  ,
                        Prandtl = 0.71  ,
Thermal_Expansion_Coefficient= 1.0 /

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=====
      UNIFORM INITIALIZATION OF THE VELOCITY COMPONENTS AND TEMPERATURE
      (DIMENSIONLESS FORM)
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&Velocity_Initialization I_Velocity_Reference_Value      = 0.0  ,
J_Velocity_Reference_Value      = 0.0  , K_Velocity_Reference_Value
= 0.0 /
&Temperature_Initialization Temperature_Reference_Value    = 0.5 /

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                GRAVITY
            (DIMENSIONLESS FORM)

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&Gravity Gravity_Enabled= .true. , Gravity_Angle_IJ= 90.0 ,
Gravity_Angle_IK= 90.0 , Reference_Gravity_Constant= 0.71/

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                DOMAIN FEATURES

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&Domain_Features Start_Coordinate_I_Direction= 0.00 ,
End_Coordinate_I_Direction= 1.00,
                    Start_Coordinate_J_Direction= 0.00 ,
End_Coordinate_J_Direction= 1.00,
                    Start_Coordinate_K_Direction= 0.00 ,
End_Coordinate_K_Direction= 0.00,
                    Cells_Number_I_Direction= 64
,Cells_Number_J_Direction=64 ,Cells_Number_K_Direction= 1,
                    Regular_Mesh= .true. /

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DEFINITION OF BOUNDARY CONDITIONS
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WALL BOUNDARY CONDITION SETUP

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Keep in mind that the domain is enclosed by default.
No new boundary conditions are defined at the ends of the domain : the
walls by default are preserved

&Heat_Wall_Boundary_Condition_Setup
    Wall_BC_DataSetName = "Set1",
    West_Heat_BC_Option = 0 , East_Heat_BC_Option = 0 ,
    Back_Heat_BC_Option = 1 , Front_Heat_BC_Option = 1 ,
    South_Heat_BC_Option = 0 , North_Heat_BC_Option = 0,
    West_Wall_BC_Value= 1.0 , East_Wall_BC_Value= 0.0 ,
    Back_Wall_BC_Value= 0.0 , Front_Wall_BC_Value= 0.0 ,
    South_Wall_BC_Value= 0.0 , North_Wall_BC_Value= 0.0 /

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BORDER BOUNDARY CONDITIONS : The walls located by default at the ends
of the domain remain unchanged

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!--- No new boundary conditions are defined at the ends of the domain :
walls by default are preserved, the inlet and outlet previously are
defined above)
!--- As "None" is the default setting for this namelist, it can be
removed

&Border_Domain_Boundary_Conditions West_BC_Name= "None" , East_BC_Name=
"None" , Back_BC_Name= "None" , Front_BC_Name= "None" , North_BC_Name=
"None" , South_BC_Name= "None" /
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                NUMERICAL METHODS
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&Numerical_Methods  NS_NumericalMethod= "BDF2-Scheme02"
,                !--- BDF2 + 2nd order centered scheme
                MomentumConvection_Scheme="Centered-02-
Conservative" ,                !--- conservative form for solving the velocity
(momentum) equation
                Poisson_NumericalMethod="Home-SORMultigrid-
ConstantMatrixCoef" / !--- SOR + multigrid method (homemade release)
for solving the Poisson's equation with constant coefficient matrix

&HomeData_PoissonSolver SolverName="SOR" ,                !---
Successive Over-Relaxation (SOR) method based on the red-black
algorithm
                Relaxation_Coefficient= 1.7 ,                !---
Relaxation coefficient of the SOR method ( 1 <= Relaxation_Coefficient
< 2)
                Number_max_Grid= 5,                !---
Number of grid levels
                Number_max_Cycle= 10,                !---
Number of multigrid cycles
                Number_Iteration= 0,                !---
Maximum number of SOR iterations method applied for any grid level, if
0 (or removed) the 3 next data are considered
                Number_Iteration_FineToCoarseGrid= 3, !---
number of SOR iterations applied on any grid level during the
restriction step (before the coarsest grid computation)
                Number_Iteration_CoarseToFineGrid= 15, !---
number of SOR iterations applied on any grid level during the
prolongation step (after the Coarsest grid computation)
                Number_Iteration_CoarsestGrid= 15 ,                !---
number of SOR iterations applied on the coarsest grid
                Convergence_Criterion= 1.D-08 /                !---
convergence tolerance on the residu of the Poisson's equation
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SIMULATION MANAGEMENT
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The numerical time step is estimated by means of the CFL coefficient

&Simulation_Management   Restart_Parameter= 0 ,
                           Steady_Flow_Stopping_Criterion_Enabled =
.true. , Steady_Flow_Stopping_Criterion = 1.D-16,
                           Temporal_Iterations_Number = 1000000
, Final_Time = 5.D+02 ,
                           TimeStep_Type = 1 ,
                           Timestep_Min = 1.D-02
, Timestep_Max = 1.D-02 ,
                           CFL_Min      = 0.5
, CFL_Max      = 0.5 ,
                           Iterations_For_Timestep_Linear_Progress= 1,
                           Simulation_Backup_Rate      =
1000 , Simulation_Checking_Rate = 101 /

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PROBES MANAGEMENT
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      NO PROBE

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FIELDS RECORDING DECLARATION
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&Simulation_Management   Fields_Recording_Rate = 5.D+01 /
&Field_Recording_Setup     Check_Special_Features=
"Heat_Driven_Cavity_Flow", Precision_On_Instantaneous_Fields= 2 /
Here, a special variable devoted to results of heat driven cavity flows
is active

&Instantaneous_Fields_Listing  Name_of_Field = "U      " ,
Recording_Enabled = .true. /      First velocity component
&Instantaneous_Fields_Listing  Name_of_Field = "V      " ,
Recording_Enabled = .true. /      Second velocity component
&Instantaneous_Fields_Listing  Name_of_Field = "T      " ,
Recording_Enabled = .true. /      Temperature

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