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1  @echo off
2  setlocal EnableDelayedExpansion
3  rem Don't remove the two jump line after than the next line [set NL=^]
4  set NL=^
5
6
7  rem "name" and "dirout" are named according to the testcase
8
9  set name=CaseDambreak
10 set dirout=%name%_out
11 set diroutdata=%dirout%\data
12
13 rem "executables" are renamed and called from their directory
14
15 set dirbin=../../bin/windows
16 set gencase="%dirbin%/GenCase_win64.exe"
17 set dualsphysicscpu="%dirbin%/DualSPPhysics5.0CPU_win64.exe"
18 set dualsphysicsgpu="%dirbin%/DualSPPhysics5.0_win64.exe"
19 set boundaryvtk="%dirbin%/BoundaryVTK_win64.exe"
20 set partvtk="%dirbin%/PartVTK_win64.exe"
21 set partvtkout="%dirbin%/PartVTKOut_win64.exe"
22 set measuretool="%dirbin%/MeasureTool_win64.exe"
23 set computeforces="%dirbin%/ComputeForces_win64.exe"
24 set isosurface="%dirbin%/IsoSurface_win64.exe"
25 set flowtool="%dirbin%/FlowTool_win64.exe"
26 set floatinginfo="%dirbin%/FloatingInfo_win64.exe"
27
28 :menu
29 if exist %dirout% (
30     set /p option="The folder "%dirout%" already exists. Choose an option. !NL! [1]- Delete it and continue. !NL! [2]-
31     Execute post-processing. !NL! [3]- Abort and exit. !NL!"
32     if "!option!" == "1" goto run else (
33         if "!option!" == "2" goto postprocessing else (
34             if "!option!" == "3" goto fail else (
35                 goto menu
36             )
37         )
38     )
39
40 :run
41 rem "dirout" to store results is removed if it already exists
42 if exist %dirout% rd /s /q %dirout%
43
44 rem CODES are executed according the selected parameters of execution in this testcase
45
46 rem Executes GenCase to create initial files for simulation.
47 %gencase% %name%_Def %dirout%/ %name% -save:all
48 if not "%ERRORLEVEL%" == "0" goto fail
49
50 rem Executes DualSPPhysics to simulate SPH method.

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51 %dualsphysicsgpu% -gpu %dirout%/name% %dirout% -dirdataout data -svres
52 if not "%ERRORLEVEL%" == "0" goto fail
53
54 :postprocessing
55 rem Executes PartVTK to create VTK files with particles.
56 set dirout2=%dirout%\particles
57 %partvtk% -dirin %diroutdata% -savevtk %dirout2%/PartFluid -onlytype:-all,+fluid
58 if not "%ERRORLEVEL%" == "0" goto fail
59
60 rem Executes PartVTKOut to create VTK files with excluded particles.
61 %partvtkout% -dirin %diroutdata% -savevtk %dirout2%/PartFluidOut -SaveResume %dirout2%/ResumeFluidOut
62 if not "%ERRORLEVEL%" == "0" goto fail
63
64 rem Executes MeasureTool to create VTK files with velocity and a CSV file with velocity at each simulation time.
65 set dirout2=%dirout%\measuretool
66 %measuretool% -dirin %diroutdata% -points CaseDambreak_PointsVelocity.txt -onlytype:-all,+fluid -vars:-all,+vel.x,+vel.m
-savevtk %dirout2%/PointsVelocity -savecsv %dirout2%/PointsVelocity
67 if not "%ERRORLEVEL%" == "0" goto fail
68
69 rem Executes MeasureTool to create VTK files with incorrect pressure and a CSV file with value at each simulation time.
70 %measuretool% -dirin %diroutdata% -points CaseDambreak_PointsPressure_Incorrect.txt -onlytype:-all,+fluid
- vars:-all,+press,+kcorr -kcusedummy:0 -kclimit:0.5 -savevtk %dirout2%/PointsPressure_Incorrect -savecsv
%dirout2%/PointsPressure_Incorrect
71 if not "%ERRORLEVEL%" == "0" goto fail
72
73 rem Executes MeasureTool to create VTK files with correct pressure and a CSV file with value at each simulation time.
74 %measuretool% -dirin %diroutdata% -points CaseDambreak_PointsPressure_Correct.txt -onlytype:-all,+fluid
- vars:-all,+press,+kcorr -kcusedummy:0 -kclimit:0.5 -savevtk %dirout2%/PointsPressure_Correct -savecsv
%dirout2%/PointsPressure_Correct
75 if not "%ERRORLEVEL%" == "0" goto fail
76
77 rem Executes ComputeForces to create a CSV file with force at each simulation time.
78 set dirout2=%dirout%\forces
79 %computeforces% -dirin %diroutdata% -onlymk:10 -viscoart:0.1 -savecsv %dirout2%/ForceBuilding1
80 if not "%ERRORLEVEL%" == "0" goto fail
81
82 %computeforces% -dirin %diroutdata% -onlymk:12 -viscoart:0.1 -savecsv %dirout2%/ForceBuilding2
83 if not "%ERRORLEVEL%" == "0" goto fail
84
85 %computeforces% -dirin %diroutdata% -onlymk:14 -viscoart:0.1 -savecsv %dirout2%/ForceBuilding3
86 if not "%ERRORLEVEL%" == "0" goto fail
87
88 %computeforces% -dirin %diroutdata% -onlymk:16 -viscoart:0.1 -savecsv %dirout2%/ForceBuilding4
89 if not "%ERRORLEVEL%" == "0" goto fail
90
91 rem Executes IsoSurface to create VTK files with surface fluid and slices of surface.
92 set dirout2=%dirout%\surface
93 set planesy="-slicevec:0:0.1:0:0:1:0 -slicevec:0:0.2:0:0:1:0 -slicevec:0:0.3:0:0:1:0 -slicevec:0:0.4:0:0:1:0
-slicevec:0:0.5:0:0:1:0 -slicevec:0:0.6:0:0:1:0"
94 set planesx="-slicevec:0.1:0:0:1:0:0 -slicevec:0.2:0:0:1:0:0 -slicevec:0.3:0:0:1:0:0 -slicevec:0.4:0:0:1:0:0
-slicevec:0.5:0:0:1:0:0 -slicevec:0.6:0:0:1:0:0 -slicevec:0.7:0:0:1:0:0 -slicevec:0.8:0:0:1:0:0 -slicevec:0.9:0:0:1:0:0"

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95 -slicevec:1.0:0:0:1:0:0"
96 set planesd="-slice3pt:0:0:0:1:0.7:0:1:0.7:1"
97 %isosurface% -dirin %diroutdata% -saveiso %dirout2%/Surface -vars:-all,vel,rhop,idp,type -saveslice %dirout2%/Slices
98 %planesy% %planesx% %planesd%
99 if not "%ERRORLEVEL%" == "0" goto fail
100 rem Executes FlowTool to create VTK files with particles assigned to different zones and a CSV file with information of each
101 zone.
102 set dirout2=%dirout%\flow
103 %flowtool% -dirin %diroutdata% -fileboxes CaseDambreak_FileBoxes.txt -savecsv %dirout2%/_ResultFlow.csv -savevtk
104 %dirout2%/Boxes.vtk
105 if not "%ERRORLEVEL%" == "0" goto fail
106
107 :success
108 echo All done
109 goto end
110
111 :fail
112 echo Execution aborted.
113
114 :end
115 pause
116
```