Namelist "Polyhedral_Immersed_Bodies"

This data setup is used to build the polyhedral solid bodies that contribute to the geometrical configuration. The form and the position of each polyhedron are defined by means of its corners (4 in 2D and 8 in 3D).
Each corner is located by a couple of coordinate {Xi_n,Xj_n} in 2D or a triplet of coordinate {Xi_n,Xj_n,Xk_n} in 3D, where the index n is the corner number.
Each corner is numbered as following :

- from n=1 to n=4, the group of corners forms a quadrangle that is the floor of the polyhedron in 3D (or directly the solid body in 2D). The corner's number must be ranked in the counterclockwise direction and the corner n=1 must be the one with the lowest values.
- from n=5 to n=8, the group of corners forms a quadrangle that is the ceiling of the polyhedron. The rules applied to sort the corners are the same as previously. This group can be omitted in 2D configuration.
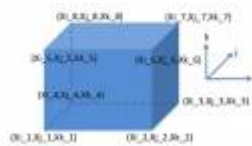
Full data set of the namelist

```
&Polyhedral_Immersed_Bodies
                Xi_1= 0.0  , Xj_1= 0.0  ,Xk_1= 0.0 ,
                Xi_2= 0.0  , Xj_2= 0.0  ,Xk_2= 0.0 ,
                Xi_3= 0.0  , Xj_3= 0.0  ,Xk_3= 0.0 ,
                Xi_4= 0.0  , Xj_4= 0.0  ,Xk_4= 0.0 ,
                Xi_5= 0.0  , Xj_5= 0.0  ,Xk_5= 0.0 ,
                Xi_6= 0.0  , Xj_6= 0.0  ,Xk_6= 0.0 ,
                Xi_7= 0.0  , Xj_7= 0.0  ,Xk_7= 0.0 ,
                Xi_8= 0.0  , Xj_8= 0.0  ,Xk_8= 0.0 ,
                Identifier_Value= 1,
                End_of_Data_Block= .true. /
```


Click on the icon to see the sketch :

> Don't forget to set the boolean data "End_of_Data_Block" at the end of the namelist. A ".true." value means the end of the data block when several namelists are used to create several polyhedrons.
>
> **Find here how to construct the wall boundary conditions and some examples.**

Definition of the data set

Xi_1, Xj_1, Xk_1

- Type : real value
- Coordinates of the 1st corner (that belongs to the floor of the polyhedron). For 2D configurations, only the couple {Xi_1, Xj_1} could be considered. This coordinate set must get the lowest values of the floor group.
- Default value= none

Xi_2, Xj_2, Xk_2

- Type : real value
- Coordinates of the 2nd corner (that belongs to the floor of the polyhedron).
- Default value= none

Xi_3, Xj_3, Xk_3

- Type : real value
- Coordinates of the 3rd corner (that belongs to the floor of the polyhedron).
- Default value= none

Xi_4, Xj_4, Xk_4

- Type : real value
- Coordinates of the 4th corner(that belongs to the floor of the polyhedron).
- Default value= none

Xi_5, Xj_5, Xk_5

- Type : real value
- Coordinates of the 5h corner (that belongs to the ceiling of the polyhedron). This coordinate set must get the lowest values of the ceiling group.
- Default value= none

Xi_6, Xj_6, Xk_6

- Type : real value
- Coordinates of the 6th corner (that belongs to the ceiling of the polyhedron).
- Default value= none

Xi_7, Xj_7, Xk_7

- Type : real value
- Coordinates of the 7th corner.
- Default value= none

Xi_8, Xj_8, Xk_8

- Type : real value
- Coordinates of the 8th corner.
- Default value= none

Identifier_Value

- Type : integer value
- Identifier related to the rank number of the wall boundary condition setup that is applied to a polyhedral body. If Identifier_Value=3, the polyhedral body is linked with the 3rd wall boundary condition setup written in the data file. A wall boundary condition setup pools the wall boundary conditions applied to the velocity components, heat and species. It can be built from the namelists "Velocity_Wall_Boundary_Condition_Setup", "Heat_Wall_Boundary_Condition_Setup" and "Species_Wall_Boundary_Condition_Setup" (Find here some examples about wall boundary conditions).
- Default value= none

End_of_Data_Block

- Type : boolean value
- Specify the end of the namelist or a group of this type of namelist (if true).