Autodesk.Revit.DB.ResultsBuilder Namespace

This namespace contains interfaces and classes used for both storing and querying results. They are used by both results providers and results consumers.
In order to use these interfaces and classes adding reference to ResultsBuilder is necessary.

Version 2016

- New class Autodesk.Revit.DB.ResultsBuilder.SurfaceLineGraph

This object represents a two-dimensional line graph defined by the ordered set of pairs (XYZ,V(XYZ)).

Class members:

- ReadOnlyCollection<XYZ> Points: Returns the list of points thad defines the line.
- ReadOnlyCollection<double> Values: List of Values over the coordinates.
- SurfaceResultType ResultType: Returns the type of result of the linear graph.
- DisplayUnitType DomainDisplayUnitType: Indicates the units of the domain of the linear graph.
- DisplayUnitType ValueDisplayUnitType: Indicates the units of the values of the linear graph.

- New method Autodesk.Revit.DB.ResultsBuilder.ResultsPackage.GetBarNodeResultsExtremes(ICollection<ElementId> loadCases,ICollection<LinearResultType> resultsTypes,out double min,out double max)

This method will provide the minimal and maximal value for this type of results

Parameters:

- loadCases as ICollection<ElementId>
- resultsTypes as ICollection<LinearResultType>
- out min as double
- out max as double

Return:

- boolean

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Return:

- boolean

- New properties for Autodesk.Revit.DB.ResultsBuilder.PointResults class:
  - LoadX: Linear load along X axis in bar's coordinate system
  - LoadY: Linear load along Y axis in bar's coordinate system
  - LoadZ: Linear load along Z axis in bar's coordinate system

- New properties for Autodesk.Revit.DB.ResultsBuilder.SurfaceNodeResult class:
  - DomainDisplayUnitType: Indicates the units of the domain of the result.
  - ValueDisplayUnitType: Indicates the units of the values of the result.
  - LoadX: Point load along X axis in slab's coordinate system
  - LoadY: Point load along Y axis in slab's coordinate system
  - LoadZ: Point load along Z axis in slab's coordinate system

- New member for Autodesk.Revit.DB.ResultsBuilder.ResultsPackageTypes enumeration
  - Gravity: To handle gravity analysis results

- New members for Autodesk.Revit.DB.ResultsBuilder.SurfaceResultType enumeration

    - LineLoadX: Linear load X
    - LineLoadY: Linear load Y
    - LineLoadZ: Linear load Z
    - PointLoadX: Punctual load X
    - PointLoadY: Punctual load Y
    - PointLoadZ: Punctual load Z
    - LineReactionX: Linear reaction X
    - LineReactionY: Linear reaction Y
    - LineReactionZ: Linear reaction Z

- New members for Autodesk.Revit.DB.ResultsBuilder.LinearResultType enumeration
    - LineLoadX: Linear load X
    - LineLoadY: Linearload Y
    - LineLoadZ: Linear load Z
    - PointLoadX: Punctual load X
    - PointLoadY: Punctual load Y
    - PointLoadZ: Punctual load Z
    - ReductionCoefficient: Reduction Coefficient
    - LineReactionX: Linear load X
    - LineReactionY: Linear load Y
    - LineReactionZ: Linear load Z

- New member for Autodesk.Revit.DB.ResultsBuilder.MeasurementResultType enumeration:
    - LineSurface: Measurement defined for lines on surface

Autodesk.Revit.DB.ResultsBuilder.Storage Namespace

This namespace contains interfaces and classes used for storing results in Revit model only. They are used only by results providers.
In order to use these interfaces and classes adding reference to ResultsBuilder is necessary.

Version 2016

- New class Autodesk.Revit.DB.ResultsBuilder.Storage.SurfaceLineNodeResults

This object defines a set of results in the calculation point contained in the line on surface element like floor or wall.

Constructor:

Autodesk.Revit.DB.ResultsBuilder.Storage.SurfaceLineNodeResults(double x,double y,double z)

Initializes a new set of results for surface calculation point

Parameters:

- x: Point coordinate in global coordinates, measured in domain units.
- y: Point coordinate in global coordinates, measured in domain units.
- z: Point coordinate in global coordinates, measured in domain units.

Class members:

- X: Point coordinate value X in global coordinates, measured in meters
- Y: Point coordinate value Y in global coordinates, measured in meters
- Z: Point coordinate value Z in global coordinates, measured in meters
- LoadX: Linear load along x-axis
- LoadY: Linear load along y-axis
- LoadZ: Linear load along z-axis
- ReactionX: Linear reaction along x-axis
- ReactionY: Linear load along y-axis
- ReactionZ: Linear load along z-axis

- New class Autodesk.Revit.DB.ResultsBuilder.Storage.SurfaceLineResults

This object defines a set of results on line defined on surface element like floor or wall.

Constructor:

Autodesk.Revit.DB.ResultsBuilder.Storage.SurfaceLineResults(IEnumerable<SurfaceLineNodeResults> lineNodeResults)
Initializes a new set of results for line on surface.

Parameters:

- lineNodeResults as IEnumerable<SurfaceLineNodeResults>

- New properties for Autodesk.Revit.DB.ResultsBuilder.Storage.BarNodeResults class:
  - LoadX: Point load in direction X (in bar's coordinate system)
  - LoadY: Point load in direction Y (in bar's coordinate system)
  - LoadZ: Point load in direction Z (in bar's coordinate system)

- New properties for Autodesk.Revit.DB.ResultsBuilder.Storage.BarPointResults class:
  - ReductionCoefficient: Reduction Coefficient
  - ReactionX: Linear Reaction X
  - ReactionY: Linear Reaction Y
  - ReactionZ: Linear Reaction Z

- New method Autodesk.Revit.DB.ResultsBuilder.Storage.ResultsPackageBuilder.SetSurfaceResults(ElementId elementId, ElementId loadId,IEnumerable< SurfaceLineResults> surfaceLines)

Sets results for lines on surface element.

Parameters:

- elementId as ElementId
- loadId as ElementId
- surfaceLines as IEnumerable< SurfaceLineResults>

Return:

- void