

Database Validation Checks

Connectivity Rules Returns geometries for features that violate the geometric network connectivity rules

Domain Validates coded value and range domains to ensure that all values meet domain constraints

LAND USE	DESCRIPTION
000	UNCLASSIFIED
AGR	AGRICULTURE
SDP	PLAN
IND	INDUSTRIAL

Relationships Searches for records that are orphans or have improper cardinality in a relationship class

CROP
1 CORN
2 RICE
3 WHEAT

Subtype Searches for feature classes with improper or null subtypes

SUBTYPES	Subtype=0
1 HIGHWAYS	
2 MAJOR ROAD	
3 LOCAL STREETS	
4 ALLEY	

Table Checks

Execute SQL Finds features based on a SQL query WHERE clause

Regular Expression Finds features with attribute values that violate the regular expression

FIELD	REGULAR EXPRESSION	YEAR
YEAR	(19 20)/D/D	1805
		1972
		2005
		200A

Table to Table Attribute Returns rows whose attributes match those of a feature class or table and/or comply with a user-defined WHERE clause comparing the attributes between feature classes and/or tables

FEATURE CLASS	OID	SCALE	SCALE
1	10,000	20,000	30,000
2	20,000	20,000	30,000
3	10,000	20,000	30,000
4	30,000	20,000	30,000

Unique ID Checks the values of a set of fields across a set of tables and feature classes for uniqueness within a given workspace

FEATURE CLASS 1	FEATURE CLASS 2
7 25	1 36
8 18	2 21
9 18	3 18

Spatial Parameter Evaluation Checks

Evaluate Extent Returns features where the extent properties (x and y) are within specified parameters

Evaluate Intersection Count Finds vertices for polyline features in one feature class that intersect polyline or polygon features in a second feature class a specified number of times

Evaluate Part Count Finds features with a part count that is within a specified range

Evaluate Vertex Count Searches for features with a vertex count that is within a specified range

Default Checks

Invalid Geometry Finds features whose geometry is empty, nothing, or not simple, as well as features with empty envelopes

OBJECTID	SHAPE	FCSUBTYPE
1	POLYLINE	AQ040-BRIDGE LINE
2	POLYLINE	AQ040-BRIDGE LINE
3	NULL	AQ040-BRIDGE LINE

Multipart Line Searches for polyline features with more than one part

Multipart Polygon Finds polygon features with more than one part and polygon features with holes

Nonlinear Segment Searches for nonlinear segments, such as arcs and curves, in line and polygon features

Polyline or Path Closes on Self Finds paths and lines in polylines that touch or cross themselves

Topology Checks

Find Dangles Within a database topology, finds polyline features that have nodes that are within a tolerance but not connected to other features in the database topology

Orphan Finds single polyline features that are not connected in the database topology

Unnecessary Nodes Finds features that share a node and have identical attributes in editable fields

Unnecessary Polygon Boundaries Finds adjacent polygon features that share a boundary and have identical attributes in editable fields

Topology Rules Returns the geometry of features that violate the topology rules that have been defined for a feature dataset in the geodatabase

Advanced Checks

Composite Searches for features that satisfy combined Geometry on Geometry and/or Table to Table Attribute checks by feeding the results of one check into the next check

Custom Returns records that meet the validation conditions of a custom check you developed to meet your specific requirements

Metadata Validates that the specified GIS item descriptions have been populated to comply with either a standards-based metadata schema or user-specified content requirements

Sampling Generates a statistical sampling of features or records from one or more layers or tables

Valency Searches for points or nodes of linear features that intersect with a specified number of linear features

Polygon Checks

Evaluate Polygon Perimeter and Area Searches for polygon, part, ring, or segment features whose area or perimeter is within a specified range

Invalid Hole Feature Finds features that intersect polygon feature holes

Polygon Sliver Finds polygons below a specified thinness ratio (t) and optionally whose area is within a specified threshold

Z-Value Checks

Adjacent Vertex Elevation Change Finds vertices for polyline or polygon features with elevation (z-value) changes greater than the specified tolerance

Different Z at Intersection Finds two intersecting line features whose z-value difference is within the minimum/maximum specified tolerance values at the point where they intersect

Evaluate Z-Values Searches for features whose z-values are within a specified range

Polygon/Ring Closed Searches for unclosed rings in polygons based on the x-value, y-value, and z-value

Slope Direction Change (Monotonicity) Searches for polylines with vertices that change slope direction according to specified conditions

Feature on Feature Checks

Geometry on Geometry Searches for features from two different feature classes or within the same feature class that spatially interact (e.g., intersect) or are within a tolerance of each other

Intersection on Geometry Returns geometries for features in Feature Class 1 that intersect with the intersections from features from Feature Class 2 and 3

Polygon Overlap/Gap Is Sliver Returns overlap/gap geometries between polygon features from two feature classes that have a thinness ratio beneath a user-specified threshold; optionally requires that the overlap/gap polygons be beneath a maximum area threshold

Polyline Checks

Cutbacks Identifies segments where the angle between segments in a polygon or polyline is below a specified minimum value

Evaluate Polyline Length Searches for segment, part/path, and polyline features whose length is within a specified range

Duplicate Geometry Checks

Duplicate Geometry Finds features of the same geometry type that are collocated

Duplicate Vertex Searches for vertices in selected polyline or polygon feature classes that are within a specified tolerance of each other