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ArcGIS® Data Reviewer Checks

Database Validation Checks

Connectivity Rules	Returns geometries for features that violate the geometric network connectivity rules	Hydrant / Lateral / Main
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; NRN IND; AGR
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 — 1 HIGHWAYS, 2 MAJOR ROAD, 3 LOCAL STREETS, 4 ALLEY; Subtype=0

Table Checks

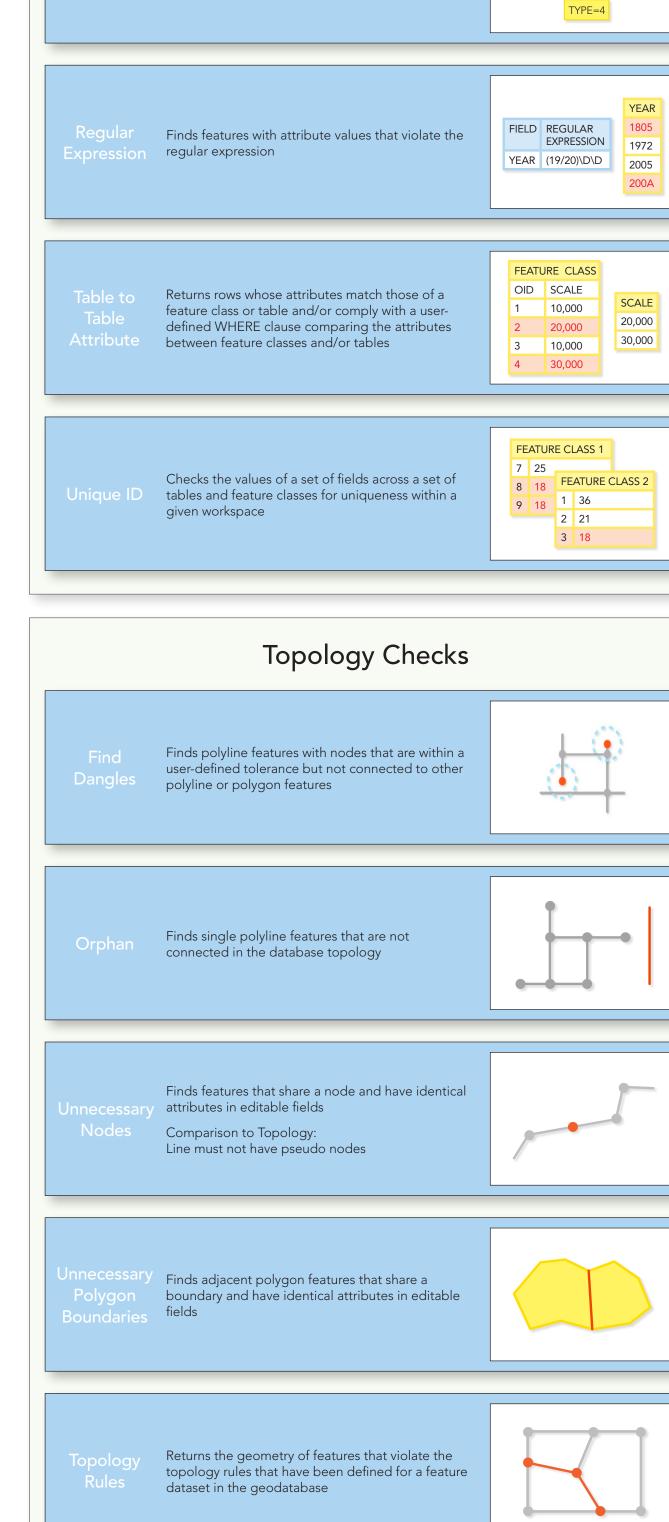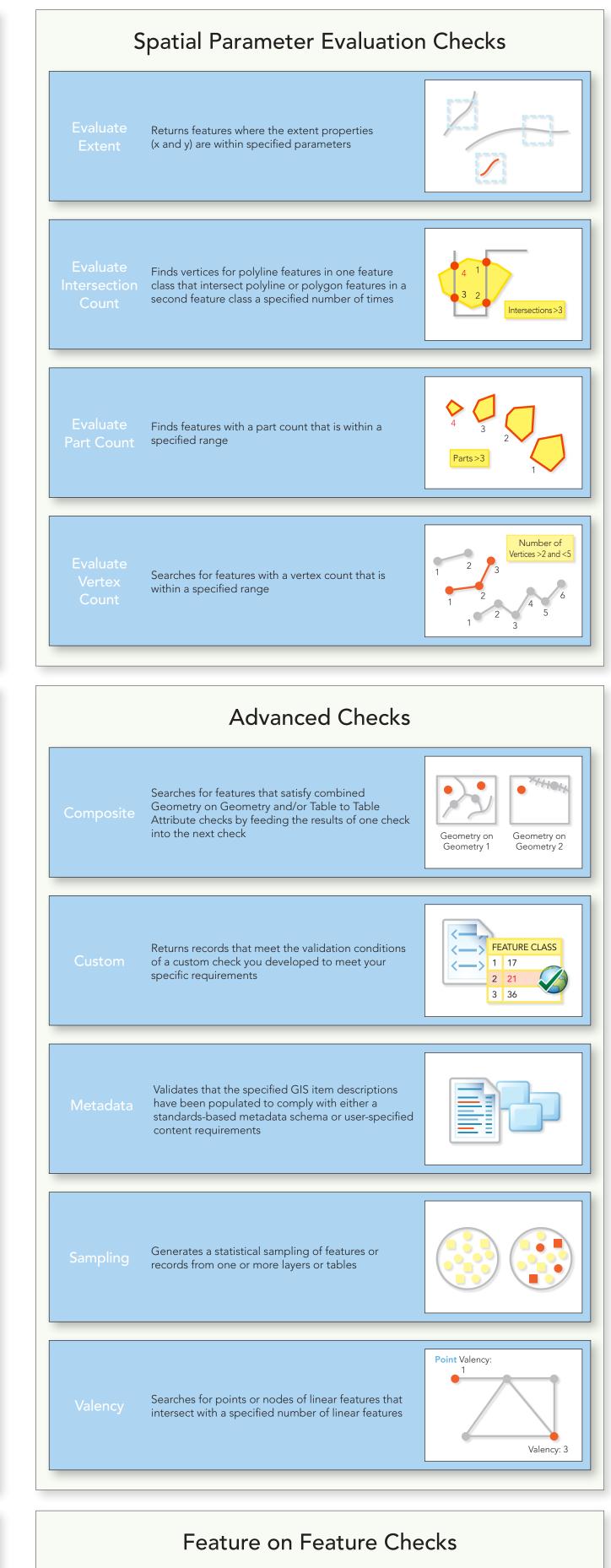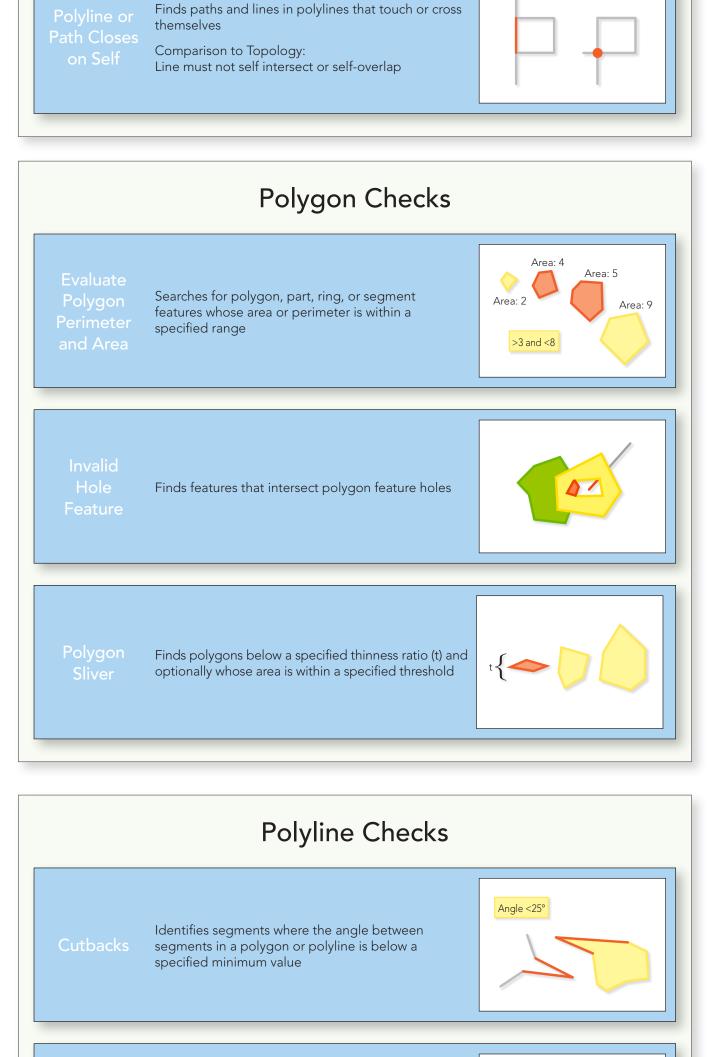|		
Execute SQL	Finds features based on a SQL query WHERE clause	TYPE=4
Regular Expression	Finds features with attribute values that violate the regular expression	FIELD / REGULAR EXPRESSION — YEAR (19/20)\D\D; YEAR 1805, 1972, 2005, 200A
Table to Table Attribute	Returns rows whose attributes match those 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: 1 10,000, 2 20,000, 3 10,000, 4 30,000; SCALE 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 — 7 25, 8 18, 9 18; FEATURE CLASS 2 — 1 36, 2 21, 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	Intersections>3
Evaluate Part Count	Finds features with a part count that is within a specified range	Parts >3
Evaluate Vertex Count	Searches for features with a vertex count that is within a specified range	Number of Vertices >2 and <5

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. Comparison to Topology: Line must be single part	Number of Parts >1
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. Comparison to Topology: Line must not self intersect or self-overlap	

Topology Checks

Find Dangles	Finds polyline features with nodes that are within a user-defined tolerance but not connected to other polyline or polygon features	
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. Comparison to Topology: Line must not have pseudo nodes	
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	Geometry on Geometry 1 / Geometry on Geometry 2
Custom	Returns records that meet the validation conditions of a custom check you developed to meet your specific requirements	FEATURE CLASS — 1 17, 2 21, 3 36
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	Point Valency: 1; Valency: 3

Polygon Checks

Evaluate Polygon Perimeter and Area	Searches for polygon, part, ring, or segment features whose area or perimeter is within a specified range	Area: 4, Area: 5, Area: 2, Area: 9; >3 and <8
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	t

Z-Value Checks

Adjacent Vertex Elevation Change	Finds vertices for polyline or polygon features with elevation (z-value) changes greater than the specified tolerance	$\triangle Z > 400'$; 630', 450' Z, 160', 180', 360'
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	$5' < \triangle Z < 50'$; 120' Z, 95', 80'
Evaluate Z-Values	Searches for features whose z-values are within a specified range	Z >1000'; 1000', 900', 800'
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	Z

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. Comparison to Topology: Line—Must not overlap, intersect, or overlap with Polygon—Must not overlap, contain point, or overlap with	
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. Comparison to Topology: Polygon must not have gaps	

Polyline Checks

Cutbacks	Identifies segments where the angle between segments in a polygon or polyline is below a specified minimum value	Angle <25°
Evaluate Polyline Length	Searches for segment, part/path, and polyline features whose length is within a specified range	Length <20; 50, 10, 30, 60, 40

Duplicate Geometry Checks

Duplicate Geometry	Finds features of the same geometry type that are colocated	Z
Duplicate Vertex	Searches for vertices in selected polyline or polygon feature classes that are within a specified tolerance of each other	

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