

Overview in General

This file contains a general overview of the data in the graph including node labels and relationships types.

References

- [jqassistant](#)
- [Neo4j Python Driver](#)

Node Labels

Table 1a - Highest node count by label combination

Lists the 30 label combinations with the highest number of nodes. The labels with the lowest node count are listed in table 1b. The total list would sum up to the total number of labels (100%).

The whole table can be found in the CSV report `Node_label_combination_count`.

Total number of nodes: 68825

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Java, ByteCode, Parameter]	11184	16.249909
1	[Java, ByteCode, Member, Method]	10627	15.440610
2	[File, Git, Log]	7804	11.338903
3	[Commit, Git, Log]	7618	11.068652
4	[Java, ByteCode, Bound, ParameterizedType]	6537	9.498002
5	[Java, ByteCode, Bound]	6308	9.165274
6	[Java, ByteCode, Member, Field]	2846	4.135125
7	[Java, ByteCode, Bound, WildcardType]	2722	3.954958
8	[Java, Value, ByteCode, Annotation]	2225	3.232837
9	[Java, ByteCode, Member, Constructor, Method]	1649	2.395932
10	[Xml, Element]	1534	2.228841
11	[Xml, Text]	1016	1.476208
12	[Java, ByteCode, Bound, TypeVariable]	988	1.435525
13	[Java, ByteCode, Member, Method, Lambda]	767	1.114421
14	[Type, File, Java, ByteCode, Class]	699	1.015619
15	[Type, File, Java, ByteCode, JavaType]	596	0.865964
16	[Type, File, Java, ByteCode, ResolvedDuplicate...	542	0.787505
17	[Java, ByteCode, GenericDeclaration, Member, M...	525	0.762804
18	[Java, Value, ByteCode, Primitive]	467	0.678533
19	[Author, Git, Log]	260	0.377770
20	[Type, File, Java, ByteCode, Class, GenericDec...	215	0.312386
21	[Type, File, Java, ByteCode, ExternalType]	194	0.281874
22	[Type, File, Java, ByteCode, Interface]	166	0.241191
23	[Java, ByteCode, Bound, GenericArrayType]	144	0.209226
24	[Java, Value, ByteCode, Enum]	142	0.206320
25	[Maven, Dependency]	116	0.168543
26	[Value, Property]	109	0.158373
27	[Package, File, Directory, Java]	107	0.155467
28	[Value, Array]	104	0.151108
29	[Value, ManifestEntry]	91	0.132219

Chart 1a - Highest node count by label combination

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in Chart 1b.

<Figure size 640x480 with 0 Axes>

Nodes per label combination (more than 0.5% overall)

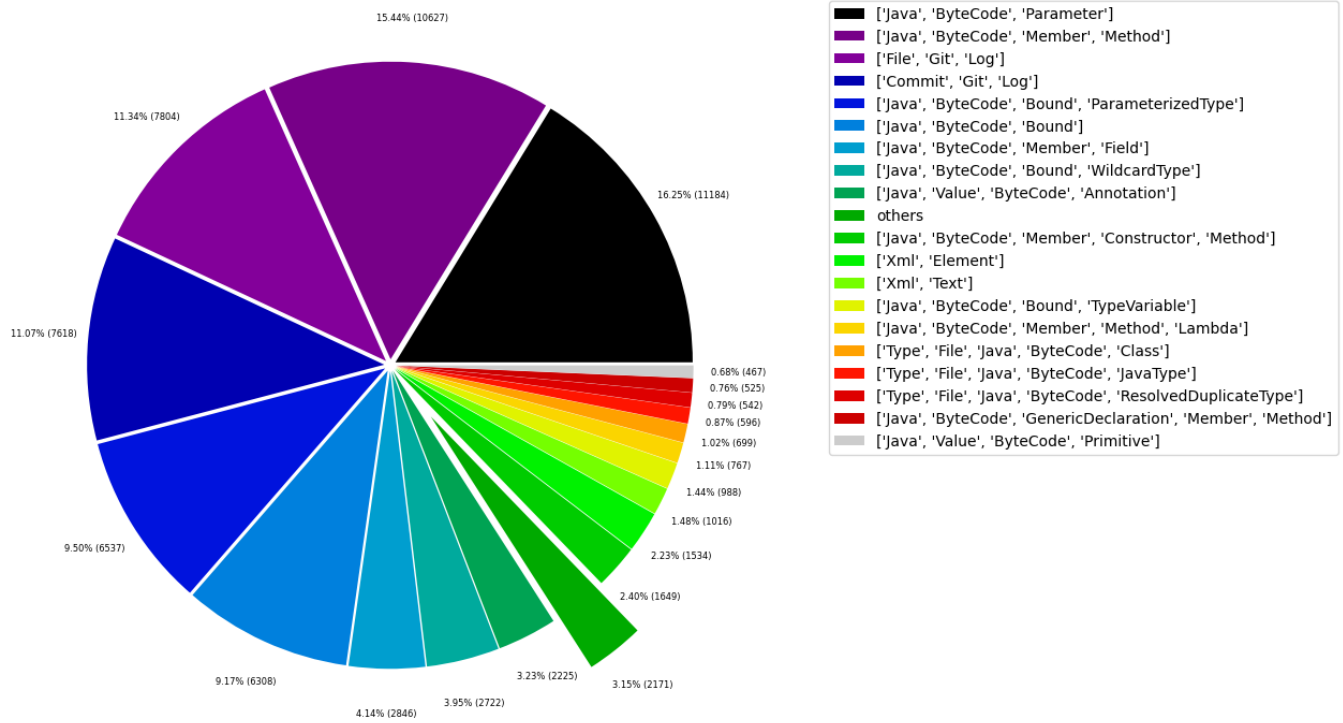


Table 1b - Lowest node count by label combination

Lists the 30 label combinations with the lowest number of nodes until they reach 0.5% of the total node count, which are shown above.

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Analyze, Task, JQAssistant]	1	0.001453
1	[Maven, Exclusion]	1	0.001453
2	[Java, ByteCode, GenericDeclaration, Member, C...	3	0.004359
3	[Type, File, Java, ByteCode, Void]	6	0.008718
4	[File, Maven, Xml, Pom, Document]	6	0.008718
5	[Java, ManifestSection]	6	0.008718
6	[File, Java, Manifest]	6	0.008718
7	[Artifact, File, Jar, Archive, Zip, Java]	6	0.008718
8	[File, Java, Properties]	8	0.011624
9	[File, Java, ServiceLoader]	9	0.013077
10	[Xml, Attribute]	12	0.017436
11	[Maven, ExecutionGoal]	14	0.020341
12	[Maven, PluginExecution]	14	0.020341
13	[Maven, Plugin]	16	0.023247
14	[Maven, Configuration]	16	0.023247
15	[JQAssistant, Rule, Concept]	19	0.027606
16	[Type, File, Java, ByteCode, PrimitiveType]	21	0.030512
17	[Xml, Namespace]	24	0.034871
18	[Type, File, Java, ByteCode, Enum]	25	0.036324
19	[Java, Value, ByteCode, Class]	28	0.040683
20	[File, Directory]	29	0.042136
21	[Type, File, Java, ByteCode, Annotation]	40	0.058118
22	[Type, File, Java, ByteCode, ExternalAnnotatio...	65	0.094442
23	[Artifact, Maven]	69	0.100254
24	[Type, File, Java, ByteCode, GenericDeclaratio...	79	0.114784
25	[Value, ManifestEntry]	91	0.132219
26	[Value, Array]	104	0.151108
27	[Package, File, Directory, Java]	107	0.155467
28	[Value, Property]	109	0.158373
29	[Maven, Dependency]	116	0.168543

Chart 1b - Lowest node count by label combination

Shows the lowest (less than 0.5% overall) node count label combinations. Therefore, this plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

<Figure size 640x480 with 0 Axes>

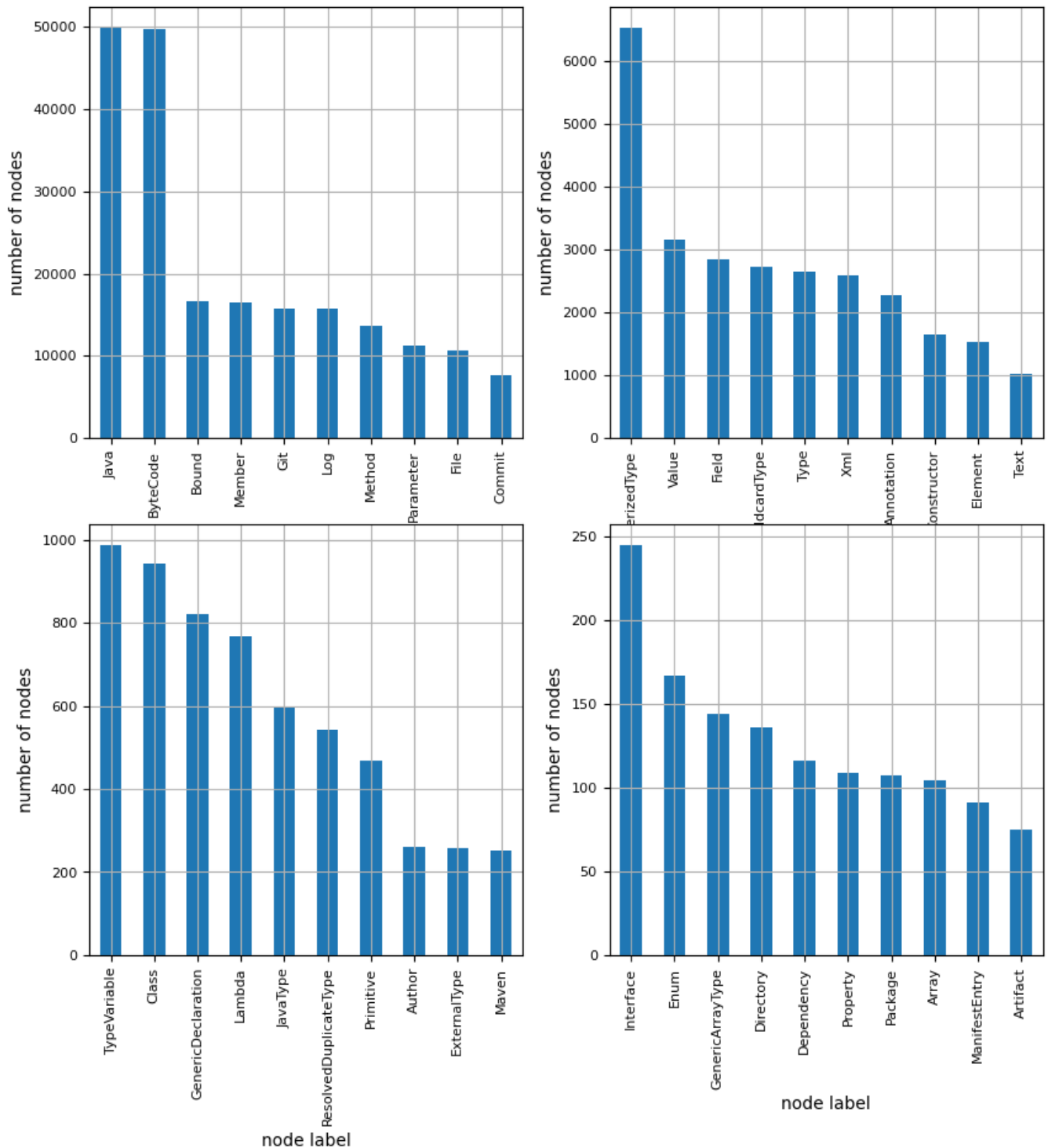
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Java	49952	72.578278
1	ByteCode	49810	72.371958
2	Bound	16699	24.262986
3	Member	16417	23.853251
4	Git	15682	22.785325
5	Log	15682	22.785325
6	Method	13571	19.718126
7	Parameter	11184	16.249909
8	File	10623	15.434798
9	Commit	7618	11.068652
10	ParameterizedType	6537	9.498002
11	Value	3166	4.600073
12	Field	2846	4.135125
13	WildcardType	2722	3.954958
14	Type	2648	3.847439
15	Xml	2592	3.766073
16	Annotation	2265	3.290955
17	Constructor	1652	2.400291
18	Element	1534	2.228841
19	Text	1016	1.476208
20	TypeVariable	988	1.435525
21	Class	942	1.368689
22	GenericDeclaration	822	1.194333
23	Lambda	767	1.114421
24	JavaType	596	0.865964
25	ResolvedDuplicateType	542	0.787505
26	Primitive	467	0.678533
27	Author	260	0.377770
28	ExternalType	259	0.376317
29	Maven	252	0.366146
30	Interface	245	0.355975
31	Enum	167	0.242644
32	GenericArrayType	144	0.209226
33	Directory	136	0.197603
34	Dependency	116	0.168543
35	Property	109	0.158373
36	Package	107	0.155467
37	Array	104	0.151108
38	ManifestEntry	91	0.132219
39	Artifact	75	0.108972

Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

<Figure size 640x480 with 0 Axes>

Node count by label



Relationship Types

Table 2a - Highest relationship count by type

Lists the 30 relationship types with the highest number of occurrences. The whole table can be found in the CSV report `Relationship_type_count`.

Total number of relationships: 232100

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGED	45786	19.726842
1	INVOKES	29631	12.766480
2	OF_TYPE	17618	7.590694
3	DEPENDS_ON	17426	7.507971
4	DECLARES	16779	7.229212
5	OF_RAW_TYPE	15183	6.541577
6	HAS	11884	5.120207
7	RETURNS	10623	4.576907
8	READS	7684	3.310642
9	AUTHORED	7618	3.282206
10	HAS_ACTUAL_TYPE_ARGUMENT	7495	3.229212
11	HAS_PARENT	6162	2.654890
12	OF_GENERIC_TYPE	5346	2.303318
13	SIMILAR	3416	1.471779
14	RETURNS_GENERIC	3250	1.400259
15	WRITES	3065	1.320551
16	CONTAINS	3027	1.304179
17	RESOLVES_TO	2914	1.255493
18	ANNOTATED_BY	2213	0.953468
19	HAS_FIRST_CHILD	1534	0.660922
20	HAS_LAST_CHILD	1534	0.660922
21	HAS_ELEMENT	1522	0.655752
22	REQUIRES	1424	0.613529
23	HAS_UPPER_BOUND	1405	0.605343
24	EXTENDS	1267	0.545885
25	HAS_TEXT	1016	0.437742
26	HAS_SIBLING	1004	0.432572
27	DECLARES_TYPE_PARAMETER	971	0.418354
28	IMPLEMENTS	707	0.304610
29	THROWS	633	0.272727

Chart 2a - Highest relationship count by type

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in the second chart.

<Figure size 640x480 with 0 Axes>

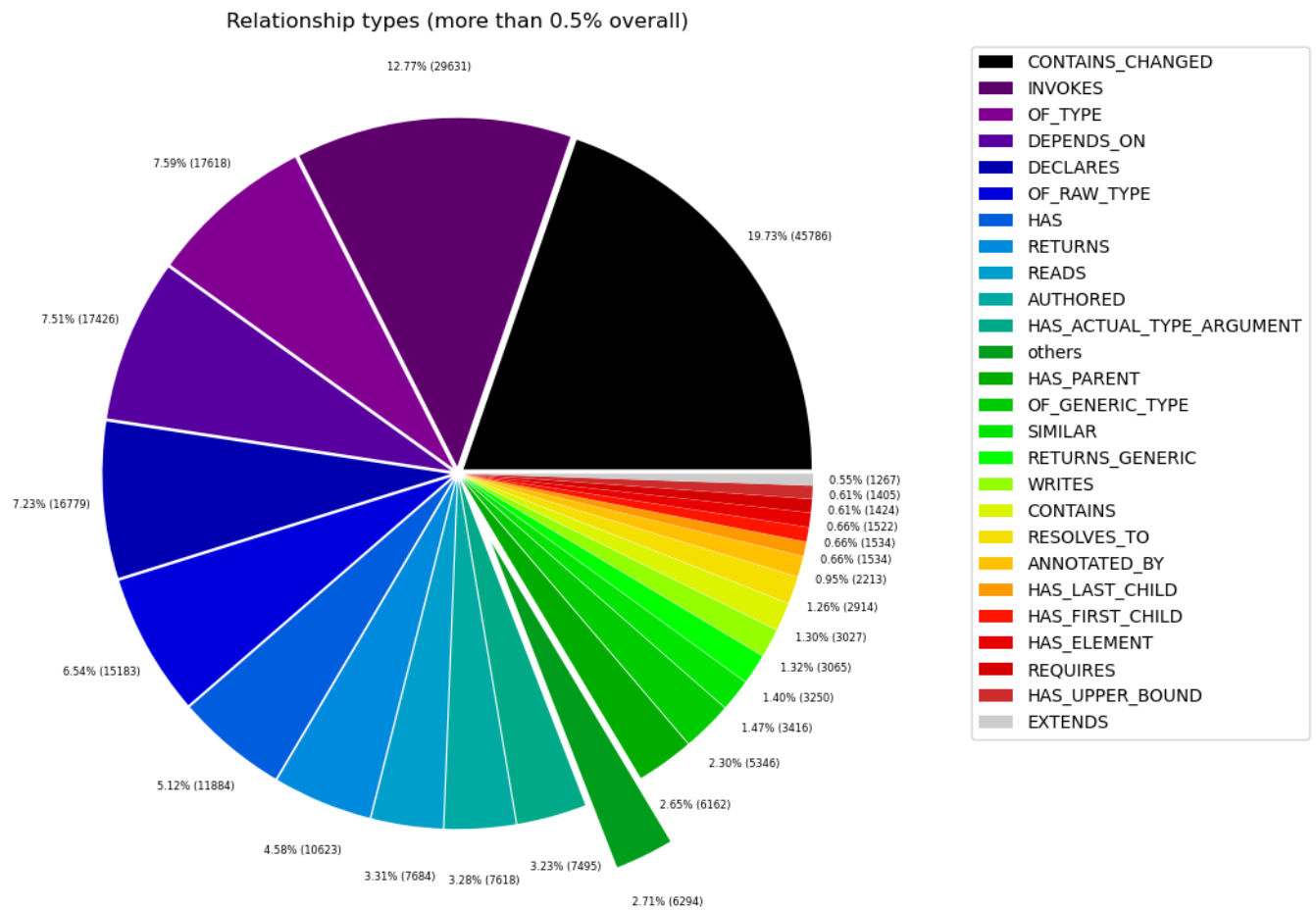


Table 2b - Lowest relationship count by type

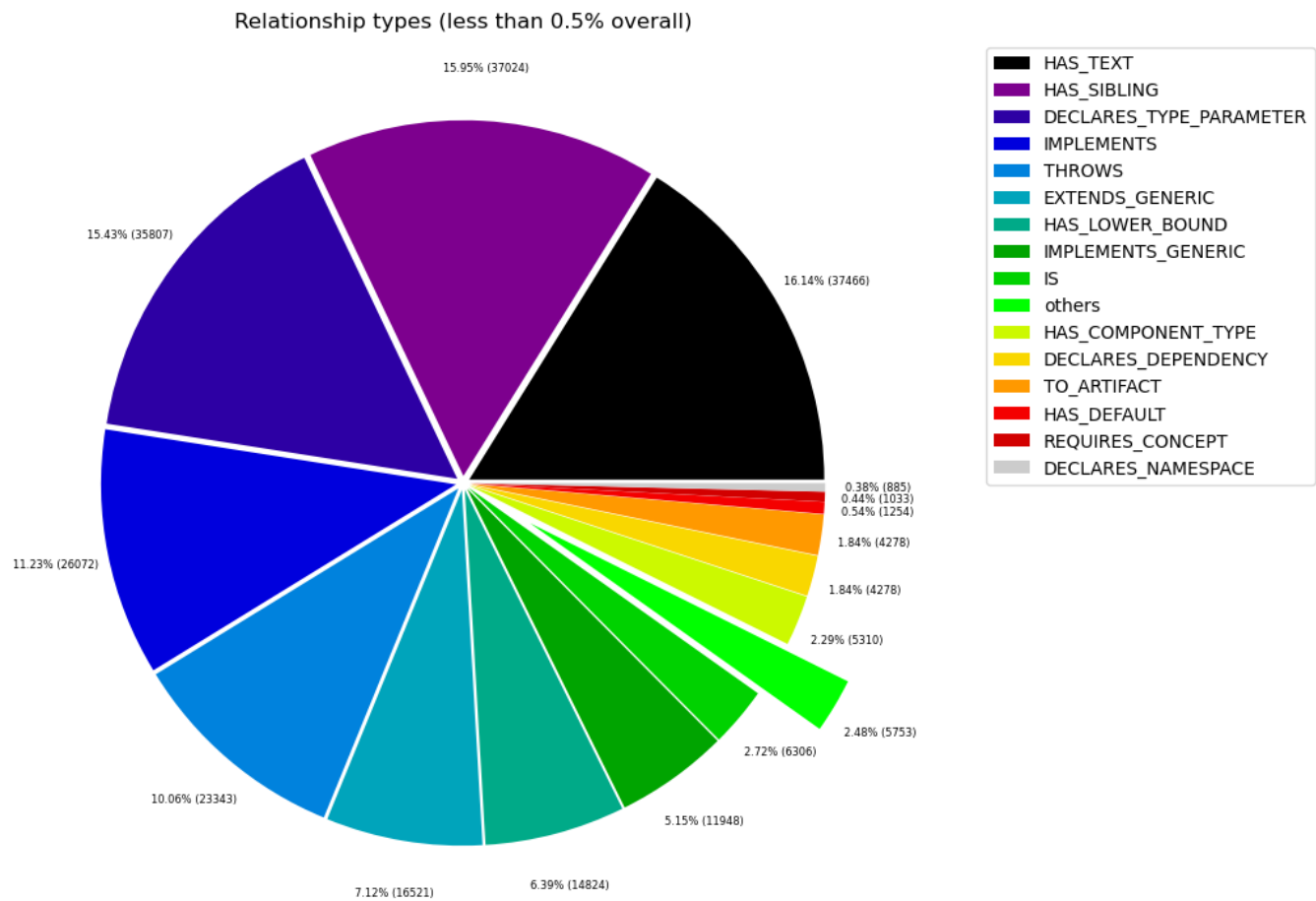
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	EXCLUDES	1	0.000431
1	THROWS_GENERIC	5	0.002154
2	DESCRIBES	6	0.002585
3	HAS_ROOT_ELEMENT	8	0.003447
4	OF_NAMESPACE	12	0.005170
5	HAS_ATTRIBUTE	12	0.005170
6	HAS_GOAL	14	0.006032
7	HAS_EXECUTION	14	0.006032
8	USES_PLUGIN	16	0.006894
9	IS_ARTIFACT	16	0.006894
10	HAS_CONFIGURATION	16	0.006894
11	REQUIRES_TYPE_PARAMETER	17	0.007324
12	INCLUDES_CONCEPT	19	0.008186
13	DECLARES_NAMESPACE	24	0.010340
14	REQUIRES_CONCEPT	28	0.012064
15	HAS_DEFAULT	34	0.014649
16	TO_ARTIFACT	116	0.049978
17	DECLARES_DEPENDENCY	116	0.049978
18	HAS_COMPONENT_TYPE	144	0.062042
19	IS	171	0.073675
20	IMPLEMENTS_GENERIC	324	0.139595
21	HAS_LOWER_BOUND	402	0.173201
22	EXTENDS_GENERIC	448	0.193020
23	THROWS	633	0.272727
24	IMPLEMENTS	707	0.304610
25	DECLARES_TYPE_PARAMETER	971	0.418354
26	HAS_SIBLING	1004	0.432572
27	HAS_TEXT	1016	0.437742

Chart 2b - Lowest relationship count by type

Shows the lowest (less than 0.5% overall) relationship types. This plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

<Figure size 640x480 with 0 Axes>



Node labels with their relationships

Table 3a - Highest relationship count by node labels and relationship type

Lists the 30 node labels and their relationship types with the highest number of occurrences.

	sourceLabels	relationType	targetLabels	numberOfRelationships	numberOfNodesWithSameLabelsAsSource	numberOfNodesWithS
0	[Commit, Git, Log]	CONTAINS_CHANGED	[File, Git, Log]	45786		7618
1	[Java, ByteCode, Member, Method]	INVOKES	[Java, ByteCode, Member, Method]	18184		10547
2	[Author, Git, Log]	AUTHORED	[Commit, Git, Log]	7618		260
3	[Java, ByteCode, Member, Method]	HAS	[Java, ByteCode, Parameter]	7303		10547
4	[Java, ByteCode, Member, Method]	READS	[Java, ByteCode, Member, Field]	6939		10547
5	[Commit, Git, Log]	HAS_PARENT	[Commit, Git, Log]	6156		7618
6	[Java, ByteCode, Parameter]	OF_TYPE	[Type, File, Java, ByteCode, JavaType]	5720		11184
7	[Java, ByteCode, Bound]	OF_RAW_TYPE	[Type, File, Java, ByteCode, JavaType]	3213		6308
8	[Java, ByteCode, Bound, ParameterizedType]	OF_RAW_TYPE	[Type, File, Java, ByteCode, JavaType]	2777		6537
9	[Java, ByteCode, Bound, ParameterizedType]	HAS_ACTUAL_TYPE_ARGUMENT	[Java, ByteCode, Bound, WildcardType]	2722		6537
10	[Java, ByteCode, Parameter]	OF_GENERIC_TYPE	[Java, ByteCode, Bound, ParameterizedType]	2434		11184
11	[Java, ByteCode, Bound, ParameterizedType]	HAS_ACTUAL_TYPE_ARGUMENT	[Java, ByteCode, Bound, TypeVariable]	2228		6537
12	[Java, ByteCode, Member, Constructor, Method]	WRITES	[Java, ByteCode, Member, Field]	1971		1649
13	[Java, ByteCode, Member, Method]	RETURNS	[Type, File, Java, ByteCode, JavaType]	1889		10547
14	[Java, Value, ByteCode, Annotation]	OF_TYPE	[Type, File, Java, ByteCode, ExternalAnnotatio...	1842		2225
15	[Java, ByteCode, Parameter]	OF_GENERIC_TYPE	[Java, ByteCode, Bound]	1818		11184
16	[Java, ByteCode, Member, Constructor, Method]	INVOKES	[Java, ByteCode, Member, Constructor, Method]	1746		1649
17	[Java, ByteCode, Member, Method]	INVOKES	[Java, ByteCode, Member, Constructor, Method]	1724		10547
18	[Java, ByteCode, Member, Constructor, Method]	HAS	[Java, ByteCode, Parameter]	1710		1649
19	[Java, ByteCode, Parameter]	ANNOTATED_BY	[Java, Value, ByteCode, Annotation]	1594		11184
20	[Java, ByteCode, Member, Constructor, Method]	INVOKES	[Java, ByteCode, Member, Method]	1535		1649
21	[Java, ByteCode, Member, Method, Lambda]	INVOKES	[Java, ByteCode, Member, Method]	1534		767
22	[Java, ByteCode, Bound, ParameterizedType]	HAS_ACTUAL_TYPE_ARGUMENT	[Java, ByteCode, Bound]	1527		6537
23	[Xml, Element]	HAS_ELEMENT	[Xml, Element]	1522		1534
24	[Java, ByteCode, Member, Method]	RETURNS	[Type, File, Java, ByteCode, Void]	1464		10547
25	[Type, File, Java, ByteCode, JavaType]	DECLARES	[Java, ByteCode, Member, Method]	1277		596
26	[Java, ByteCode, GenericDeclaration, Member, M...	INVOKES	[Java, ByteCode, Member, Method]	1276		510
27	[Java, ByteCode, Member, Constructor, Method]	RETURNS	[Type, File, Java, ByteCode, Void]	1221		1649

	sourceLabels	relationType	targetLabels	numberOfRelationships	numberOfNodesWithSameLabelsAsSource	numberOfNodesWithS
28	[Java, ByteCode, Member, Field]	OF_TYPE	[Type, File, Java, ByteCode, JavaType]	1170		2846
29	[Java, ByteCode, Member, Method]	RETURNS_GENERIC	[Java, ByteCode, Bound, ParameterizedType]	1159		10547

Graph Density

total_number_of_nodes (vertices): 68825

total_number_of_relationships (edges): 232100

-> total directed graph density: 4.8999202374896974e-05

-> total directed graph density in percent: 0.0048999202374896975