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: 11760
```

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Commit, Log]	5626	47.840136
1	[File, Git, Log]	3528	30.000000
2	[Git, Author, Log]	994	8.452381
3	[Type, TS, Primitive, ExternalType]	286	2.431973
4	[Type, TS, Declared, ExternalType]	276	2.346939
5	[TS, ExternalDeclaration]	209	1.777211
6	[Type, TS, Literal, ExternalType]	136	1.156463
7	[Type, TS, Union, ExternalType]	118	1.003401
8	[Type, TS, ObjectMember, ExternalType]	95	0.807823
9	[TS, Property]	65	0.552721
10	[TS, Function]	47	0.399660
11	[Type, TS, Object, ExternalType]	36	0.306122
12	[Type, TS, FunctionParameter, ExternalType]	35	0.297619
13	[TS, Parameter]	33	0.280612
14	[Type, TS, Function, ExternalType]	31	0.263605
15	[TS, ExternalModule]	25	0.212585
16	[TS, Variable]	23	0.195578
17	[TS, Literal, Value]	20	0.170068
18	[jQAssistant, Rule, Concept]	19	0.161565
19	[TS, Interface]	18	0.153061
20	[Type, TS, Intersection, ExternalType]	17	0.144558
21	[File, Directory, Local]	16	0.136054
22	[TS, TypeAlias]	14	0.119048
23	[TS, Declared, Value]	10	0.085034
24	[Type, TS, NotIdentified, ExternalType]	10	0.085034
25	[TS, EnumMember]	8	0.068027
26	[Project, TS]	6	0.051020
27	[File, Local]	6	0.051020
28	[File, TS, Local, Module]	6	0.051020
29	[Type, TS, TypeParameterReference, ExternalType]	6	0.051020

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>
```

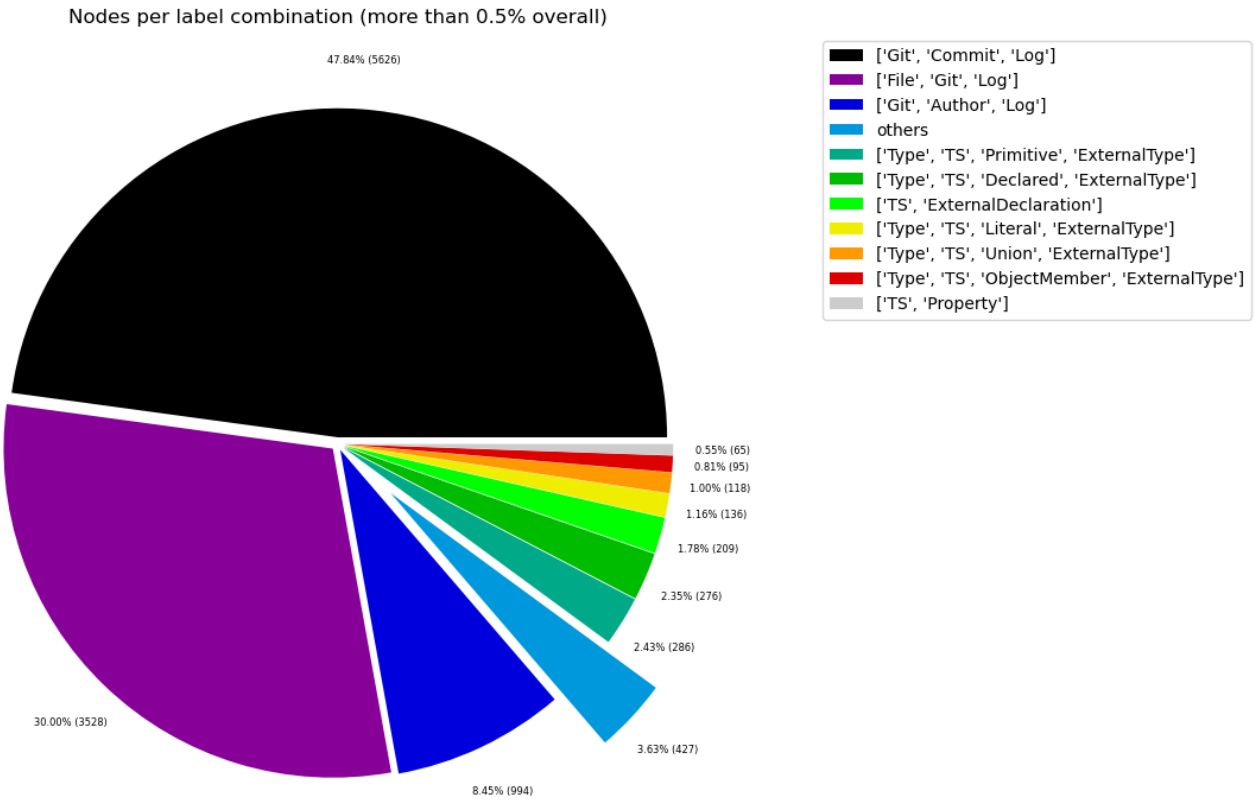


Table 1b - Lowest node count by label combination

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	[Repository, Git]	1	0.008503
1	[File]	1	0.008503
2	[File, TS, Scan]	1	0.008503
3	[TS, Class]	1	0.008503
4	[Analyze, Task, jQAssistant]	1	0.008503
5	[TS, Method]	1	0.008503
6	[TS, ObjectMember, Value]	1	0.008503
7	[TS, Constructor]	1	0.008503
8	[TS, Enum]	2	0.017007
9	[File, Directory]	2	0.017007
10	[TS, Object, Value]	3	0.025510
11	[Type, TS, Tuple, ExternalType]	3	0.025510
12	[TS, Function, Value]	4	0.034014
13	[TS, TypeParameter]	4	0.034014
14	[TS, Value, Member]	5	0.042517
15	[TS, Value, Call]	5	0.042517
16	[TS, Value, Complex]	5	0.042517
17	[Type, TS, TypeParameterReference, ExternalType]	6	0.051020
18	[File, TS, Local, Module]	6	0.051020
19	[File, Local]	6	0.051020
20	[Project, TS]	6	0.051020
21	[TS, EnumMember]	8	0.068027
22	[Type, TS, NotIdentified, ExternalType]	10	0.085034
23	[TS, Declared, Value]	10	0.085034
24	[TS, TypeAlias]	14	0.119048
25	[File, Directory, Local]	16	0.136054
26	[Type, TS, Intersection, ExternalType]	17	0.144558
27	[TS, Interface]	18	0.153061
28	[jQAssistant, Rule, Concept]	19	0.161565
29	[TS, Literal, Value]	20	0.170068

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>
```

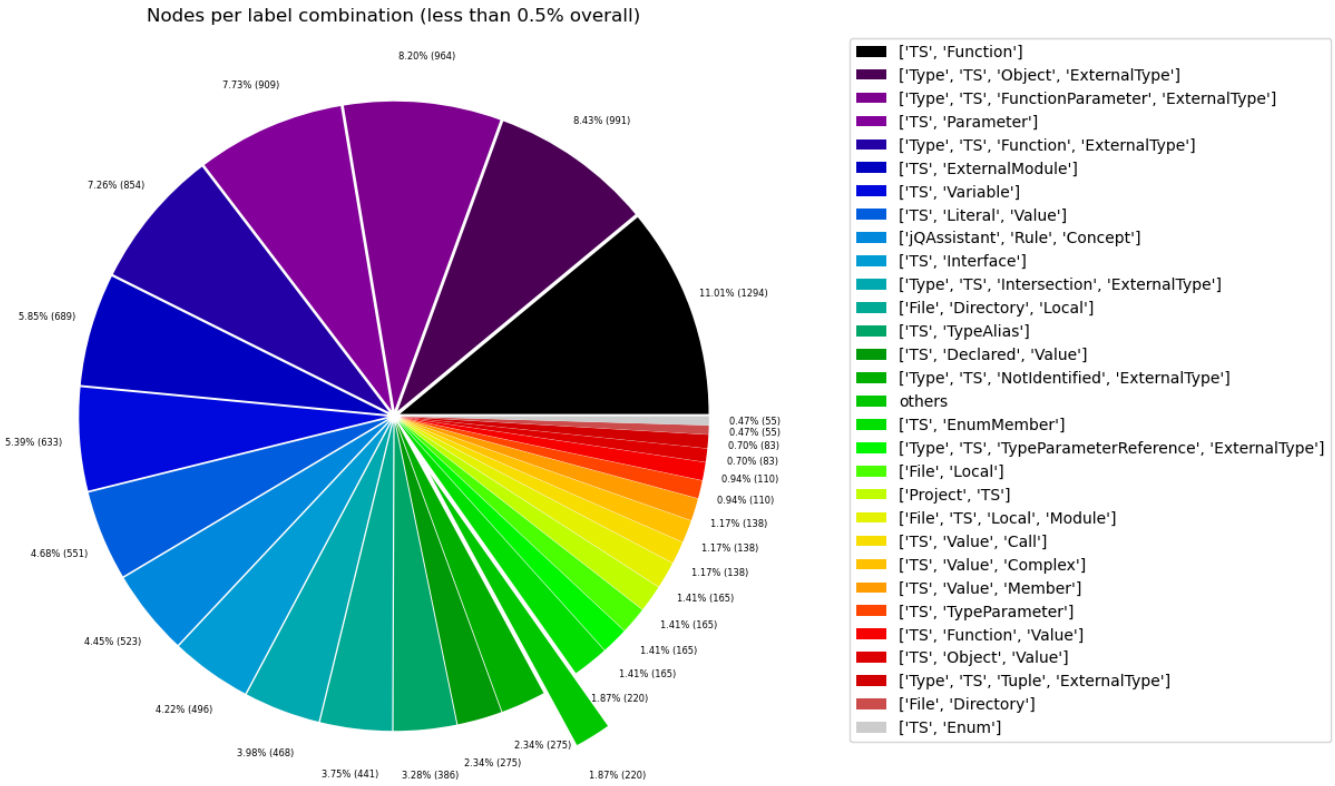


Table 1c - Highest node count by single label

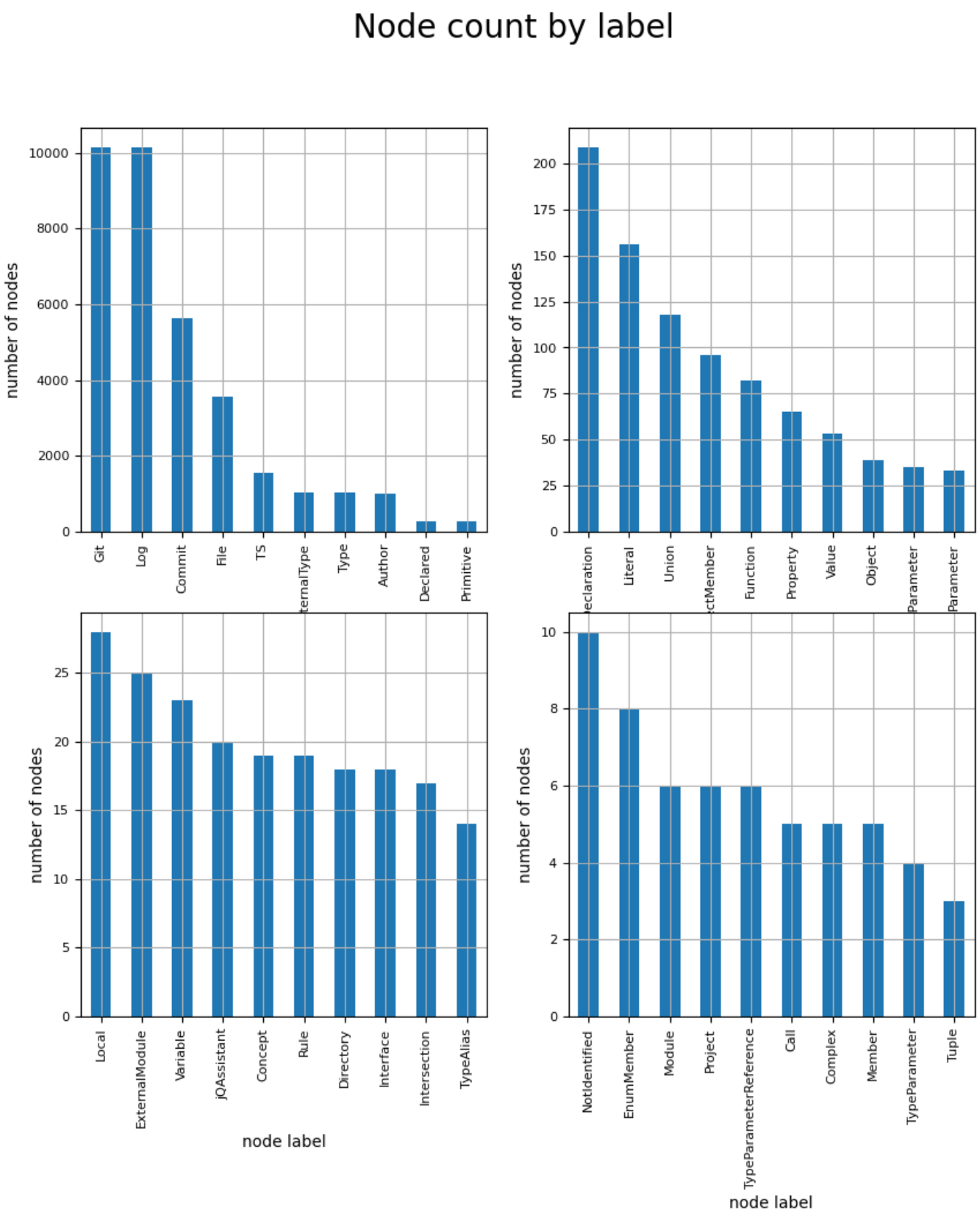
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	10149	86.301020
1	Log	10148	86.292517
2	Commit	5626	47.840136
3	File	3560	30.272109
4	TS	1566	13.316327
5	ExternalType	1049	8.920068
6	Type	1049	8.920068
7	Author	994	8.452381
8	Declared	286	2.431973
9	Primitive	286	2.431973
10	ExternalDeclaration	209	1.777211
11	Literal	156	1.326531
12	Union	118	1.003401
13	ObjectMember	96	0.816327
14	Function	82	0.697279
15	Property	65	0.552721
16	Value	53	0.450680
17	Object	39	0.331633
18	FunctionParameter	35	0.297619
19	Parameter	33	0.280612
20	Local	28	0.238095
21	ExternalModule	25	0.212585
22	Variable	23	0.195578
23	jQAssistant	20	0.170068
24	Concept	19	0.161565
25	Rule	19	0.161565
26	Directory	18	0.153061
27	Interface	18	0.153061
28	Intersection	17	0.144558
29	TypeAlias	14	0.119048
30	NotIdentified	10	0.085034
31	EnumMember	8	0.068027
32	Module	6	0.051020
33	Project	6	0.051020
34	TypeParameterReference	6	0.051020
35	Call	5	0.042517
36	Complex	5	0.042517
37	Member	5	0.042517
38	TypeParameter	4	0.034014
39	Tuple	3	0.025510

Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

```
<Figure size 640x480 with 0 Axes>
```



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: 44754
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGED	21283	47.555526
1	AUTHORED	5626	12.570943
2	HAS_COMMIT	5626	12.570943
3	HAS_PARENT	4798	10.720829
4	HAS_FILE	3528	7.883094
5	HAS_AUTHOR	994	2.221031
6	DEPENDS_ON	947	2.116012
7	CONTAINS	463	1.034544
8	OF_TYPE	318	0.710551
9	EXPORTS	269	0.601064
10	REFERENCES	188	0.420074
11	DECLARES	184	0.411136
12	HAS_MEMBER	96	0.214506
13	HAS_TYPE_ARGUMENT	96	0.214506
14	RETURNS	79	0.176521
15	HAS_PARAMETER	68	0.151942
16	INITIALIZED_WITH	31	0.069268
17	REQUIRES_CONCEPT	28	0.062564
18	USES	25	0.055861
19	RESOLVES_TO	24	0.053626
20	INCLUDES_CONCEPT	19	0.042454
21	SIMILAR	10	0.022344
22	EXTENDS	7	0.015641
23	CONTAINS_PROJECT	6	0.013407
24	HAS_CONFIG	6	0.013407
25	HAS_ROOT	6	0.013407
26	CALLS	5	0.011172
27	HAS_ARGUMENT	5	0.011172
28	MEMBER	5	0.011172
29	PARENT	5	0.011172

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>
```

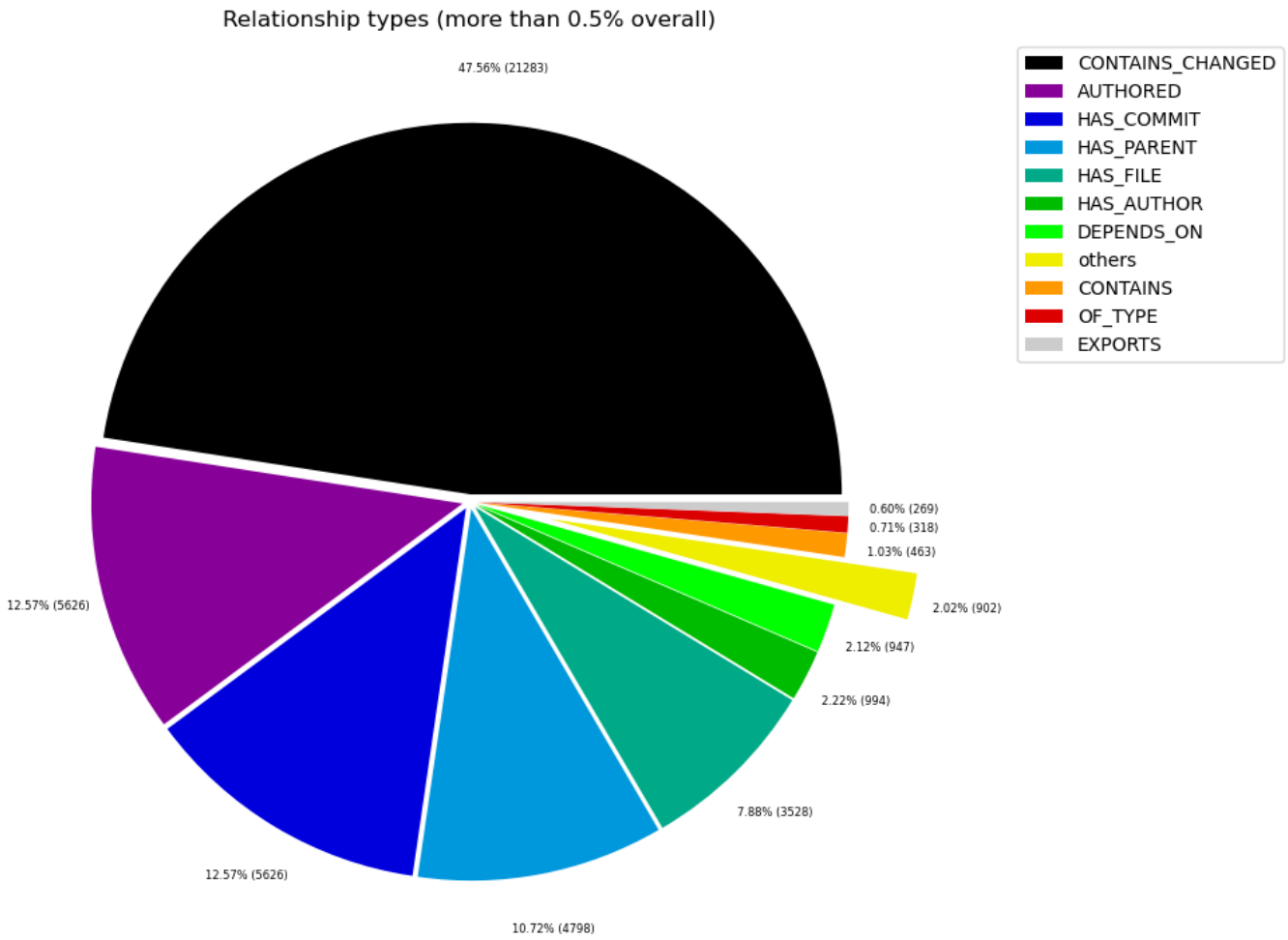


Table 2b - Lowest relationship count by type

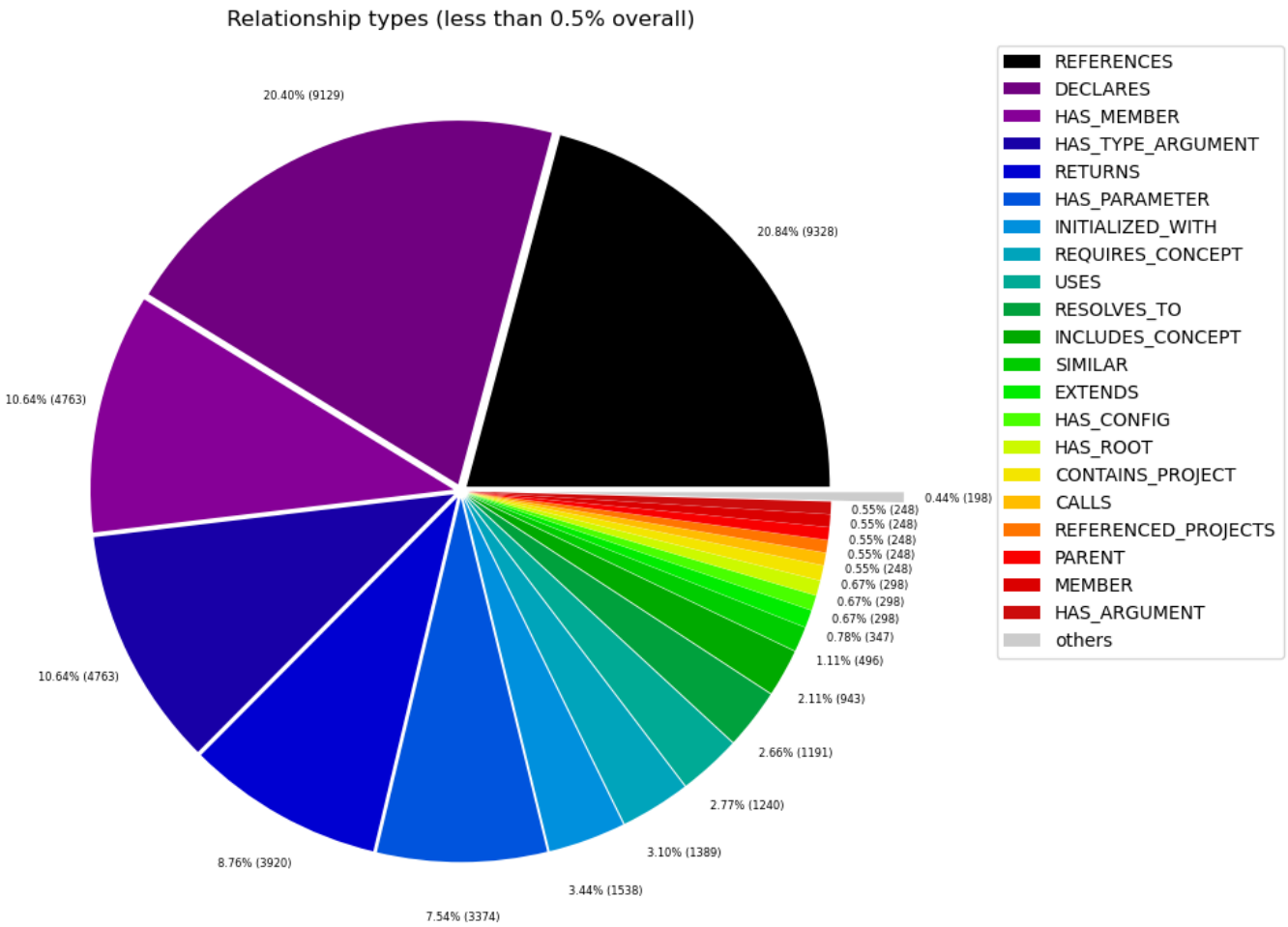
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.008938
1	PARENT	5	0.011172
2	MEMBER	5	0.011172
3	HAS_ARGUMENT	5	0.011172
4	CALLS	5	0.011172
5	REFERENCED_PROJECTS	5	0.011172
6	HAS_ROOT	6	0.013407
7	HAS_CONFIG	6	0.013407
8	CONTAINS_PROJECT	6	0.013407
9	EXTENDS	7	0.015641
10	SIMILAR	10	0.022344
11	INCLUDES_CONCEPT	19	0.042454
12	RESOLVES_TO	24	0.053626
13	USES	25	0.055861
14	REQUIRES_CONCEPT	28	0.062564
15	INITIALIZED_WITH	31	0.069268
16	HAS_PARAMETER	68	0.151942
17	RETURNS	79	0.176521
18	HAS_TYPE_ARGUMENT	96	0.214506
19	HAS_MEMBER	96	0.214506
20	DECLARES	184	0.411136
21	REFERENCES	188	0.420074

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	numberOfNodesWithSam
0	[Git, Commit, Log]	CONTAINS_CHANGED	[File, Git, Log]	21283	5626	
1	[Repository, Git]	HAS_COMMIT	[Git, Commit, Log]	5626	1	
2	[Git, Author, Log]	AUTHORED	[Git, Commit, Log]	5626	994	
3	[Git, Commit, Log]	HAS_PARENT	[Git, Commit, Log]	4798	5626	
4	[Repository, Git]	HAS_FILE	[File, Git, Log]	3528	1	
5	[Repository, Git]	HAS_AUTHOR	[Git, Author, Log]	994	1	
6	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	280	47	
7	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	209	25	
8	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Primitive, ExternalType]	147	118	
9	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	146	1	
10	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	130	276	
11	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	129	47	
12	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119	118	
13	[Type, TS, Object, ExternalType]	HAS_MEMBER	[Type, TS, ObjectMember, ExternalType]	95	36	
14	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Declared, ExternalType]	77	118	
15	[TS, Interface]	DECLARES	[TS, Property]	61	18	
16	[TS, Property]	OF_TYPE	[Type, TS, Union, ExternalType]	46	65	
17	[Type, TS, Declared, ExternalType]	HAS_TYPE_ARGUMENT	[Type, TS, Declared, ExternalType]	42	276	
18	[TS, Variable]	DEPENDS_ON	[TS, ExternalDeclaration]	42	23	
19	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	40	2	
20	[Type, TS, ObjectMember, ExternalType]	OF_TYPE	[Type, TS, Union, ExternalType]	35	95	
21	[Type, TS, Function, ExternalType]	HAS_PARAMETER	[Type, TS, FunctionParameter, ExternalType]	35	31	
22	[TS, Function]	HAS_PARAMETER	[TS, Parameter]	33	47	
23	[Type, TS, ObjectMember, ExternalType]	OF_TYPE	[Type, TS, Primitive, ExternalType]	31	95	
24	[TS, Function]	DEPENDS_ON	[TS, Function]	30	47	
25	[Type, TS, Declared, ExternalType]	HAS_TYPE_ARGUMENT	[Type, TS, Primitive, ExternalType]	28	276	
26	[jQAssistant, Rule, Concept]	REQUIRES_CONCEPT	[jQAssistant, Rule, Concept]	28	19	
27	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DECLARES	[TS, Function]	27	1	
28	[File, Directory, Local]	CONTAINS	[File, Directory, Local]	26	16	
29	[TS, Interface]	DEPENDS_ON	[TS, ExternalDeclaration]	26	18	

Graph Density

```
total_number_of_nodes (vertices): 11760
total_number_of_relationships (edges): 44754
-> total directed graph density: 0.00032363400330793086
-> total directed graph density in percent: 0.03236340033079309
```