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: 90966
```

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	71781	78.909703
1	[Git, Commit]	9837	10.813930
2	[File, Git]	5042	5.542730
3	[Author, Git, Person]	1181	1.298287
4	[Git, Tag]	1044	1.147682
5	[Committer, Git, Person]	371	0.407845
6	[Type, TS, Primitive, ExternalType]	291	0.319900
7	[Type, TS, Declared, ExternalType]	286	0.314403
8	[TS, ExternalDeclaration]	211	0.231955
9	[Type, TS, Literal, ExternalType]	136	0.149506
10	[Type, TS, Union, ExternalType]	120	0.131917
11	[Type, TS, ObjectMember, ExternalType]	98	0.107733
12	[TS, Property]	65	0.071455
13	[TS, Function]	47	0.051668
14	[Type, TS, Object, ExternalType]	38	0.041774
15	[Type, TS, FunctionParameter, ExternalType]	38	0.041774
16	[TS, Parameter]	33	0.036277
17	[Type, TS, Function, ExternalType]	33	0.036277
18	[TS, ExternalModule]	25	0.027483
19	[File]	25	0.027483
20	[TS, Variable]	24	0.026383
21	[Git, Branch]	24	0.026383
22	[TS, Literal, Value]	20	0.021986
23	[jQAssistant, Rule, Concept]	19	0.020887
24	[TS, Interface]	18	0.019788
25	[Type, TS, Intersection, ExternalType]	17	0.018688
26	[File, Local, Directory]	16	0.017589
27	[File, Directory]	16	0.017589
28	[TS, TypeAlias]	14	0.015390
29	[TS, Declared, Value]	13	0.014291

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>
```

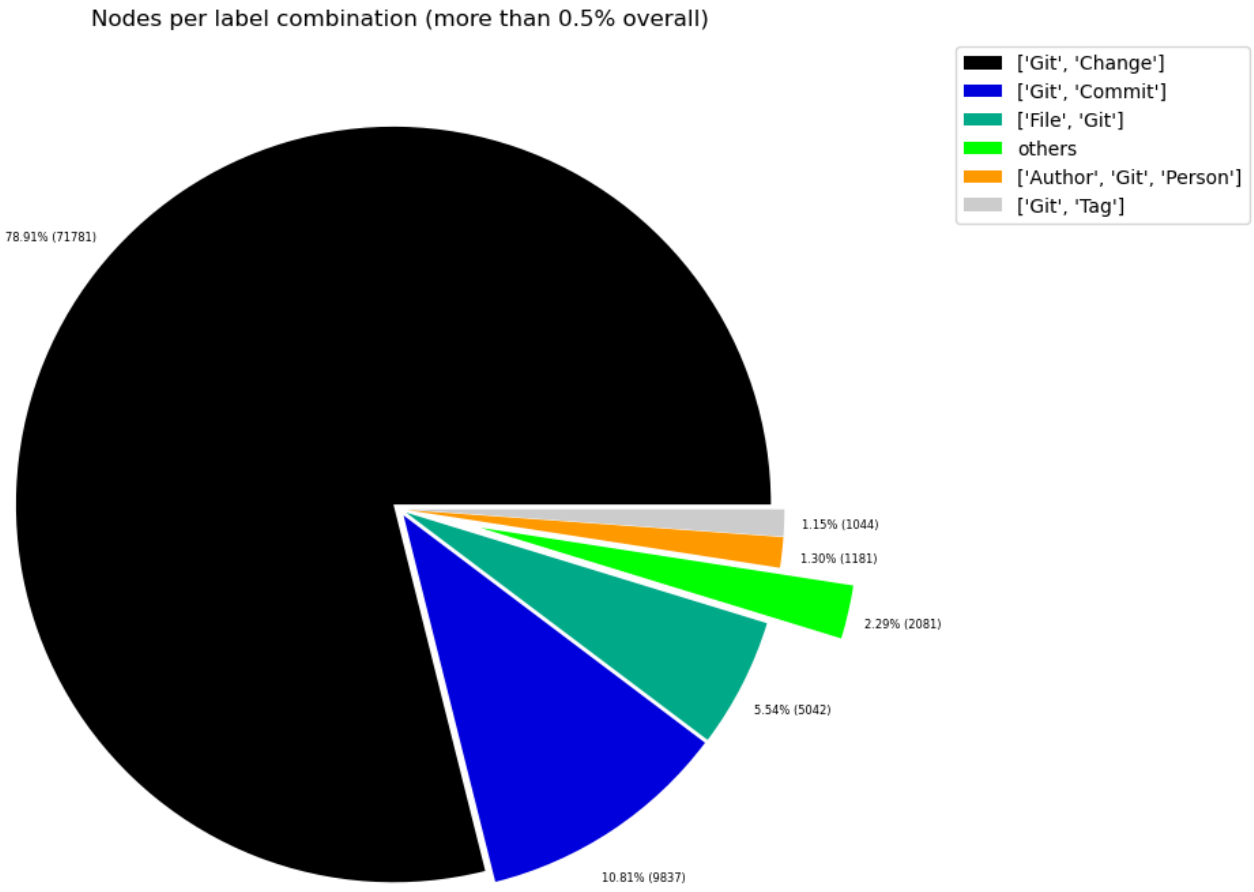

Table 1b - Lowest node count by label combination

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	[Analyze, Task, jQAssistant]	1	0.001099
1	[File, TS, Scan]	1	0.001099
2	[TS, Class]	1	0.001099
3	[Repository, File, Git]	1	0.001099
4	[TS, Method]	1	0.001099
5	[TS, ObjectMember, Value]	1	0.001099
6	[TS, Constructor]	1	0.001099
7	[TS, Enum]	2	0.002199
8	[TS, Object, Value]	3	0.003298
9	[Type, TS, Tuple, ExternalType]	3	0.003298
10	[TS, Function, Value]	4	0.004397
11	[TS, TypeParameter]	4	0.004397
12	[TS, Value, Complex]	5	0.005497
13	[Project, TS]	6	0.006596
14	[File, Local]	6	0.006596
15	[Type, TS, TypeParameterReference, ExternalType]	6	0.006596
16	[TS, Value, Call]	6	0.006596
17	[File, TS, Local, Module]	6	0.006596
18	[TS, Value, Member]	6	0.006596
19	[TS, EnumMember]	8	0.008794
20	[Type, TS, NotIdentified, ExternalType]	11	0.012092
21	[TS, Declared, Value]	13	0.014291
22	[TS, TypeAlias]	14	0.015390
23	[File, Local, Directory]	16	0.017589
24	[File, Directory]	16	0.017589
25	[Type, TS, Intersection, ExternalType]	17	0.018688
26	[TS, Interface]	18	0.019788
27	[jQAssistant, Rule, Concept]	19	0.020887
28	[TS, Literal, Value]	20	0.021986
29	[Git, Branch]	24	0.026383

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>
```

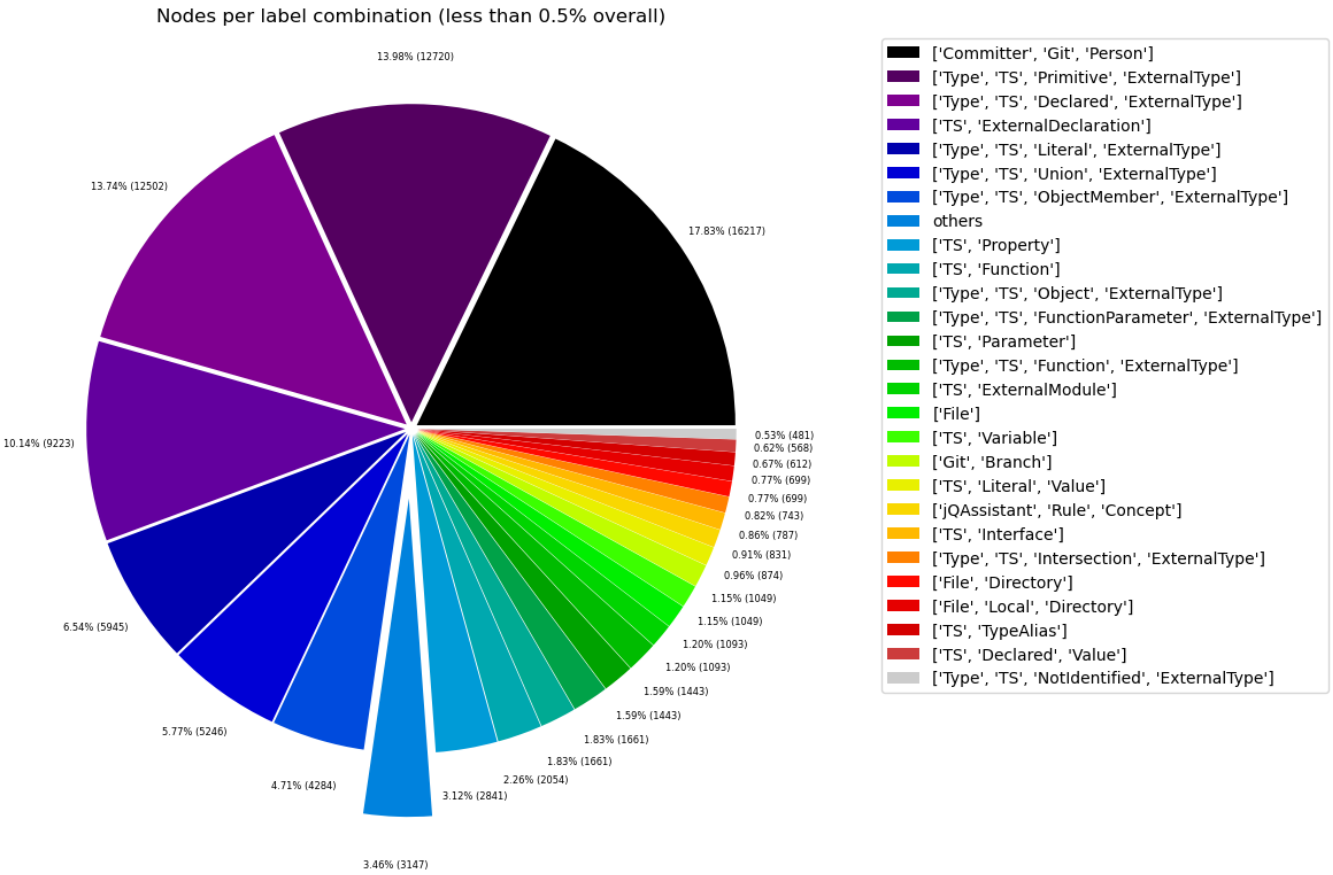

Table 1c - Highest node count by single label

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	89281	98.147660
1	Change	71781	78.909703
2	Commit	9837	10.813930
3	File	5113	5.620781
4	TS	1602	1.761098
5	Person	1552	1.706132
6	Author	1181	1.298287
7	ExternalType	1077	1.183959
8	Type	1077	1.183959
9	Tag	1044	1.147682
10	Committer	371	0.407845
11	Declared	299	0.328694
12	Primitive	291	0.319900
13	ExternalDeclaration	211	0.231955
14	Literal	156	0.171493
15	Union	120	0.131917
16	ObjectMember	99	0.108832
17	Function	84	0.092342
18	Property	65	0.071455
19	Value	58	0.063760
20	Object	41	0.045072
21	FunctionParameter	38	0.041774
22	Parameter	33	0.036277
23	Directory	32	0.035178
24	Local	28	0.030781
25	ExternalModule	25	0.027483
26	Branch	24	0.026383
27	Variable	24	0.026383
28	jQAssistant	20	0.021986
29	Concept	19	0.020887
30	Rule	19	0.020887
31	Interface	18	0.019788
32	Intersection	17	0.018688
33	TypeAlias	14	0.015390
34	NotIdentified	11	0.012092
35	EnumMember	8	0.008794
36	Call	6	0.006596
37	Member	6	0.006596
38	Module	6	0.006596
39	Project	6	0.006596

Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

```
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```
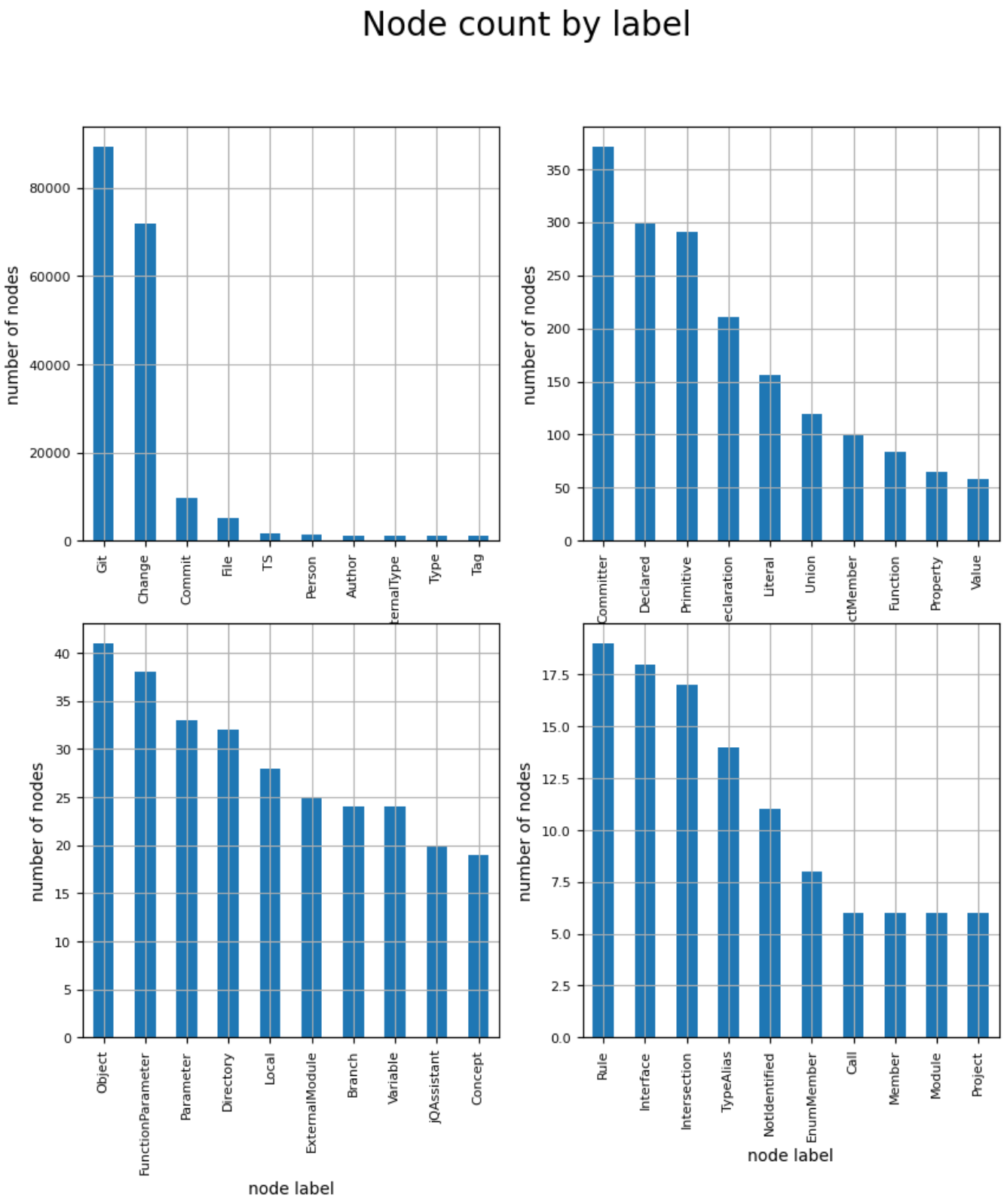



Relationship Types

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: 274445
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	71781	26.154967
1	MODIFIES	71781	26.154967
2	UPDATES	47928	17.463608
3	COMMITTED	19674	7.168649
4	CREATES	16664	6.071891
5	HAS_PARENT	10833	3.947239
6	DELETES	9895	3.605458
7	HAS_COMMIT	9837	3.584325
8	HAS_FILE	5042	1.837162
9	RENAMES	2706	0.985990
10	HAS_NEW_NAME	1543	0.562226
11	HAS_AUTHOR	1181	0.430323
12	HAS_TAG	1044	0.380404
13	ON_COMMIT	1044	0.380404
14	DEPENDS_ON	953	0.347246
15	CONTAINS	536	0.195303
16	HAS_COMMITTER	371	0.135182
17	OF_TYPE	330	0.120243
18	EXPORTS	271	0.098745
19	REFERENCES	198	0.072146
20	DECLARES	185	0.067409
21	HAS_MEMBER	99	0.036073
22	HAS_TYPE_ARGUMENT	99	0.036073
23	RETURNS	81	0.029514
24	HAS_PARAMETER	71	0.025870
25	INITIALIZED_WITH	32	0.011660
26	COPIES	29	0.010567
27	REQUIRES_CONCEPT	28	0.010202
28	RESOLVES_TO	27	0.009838
29	HAS_HEAD	25	0.009109

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>
```

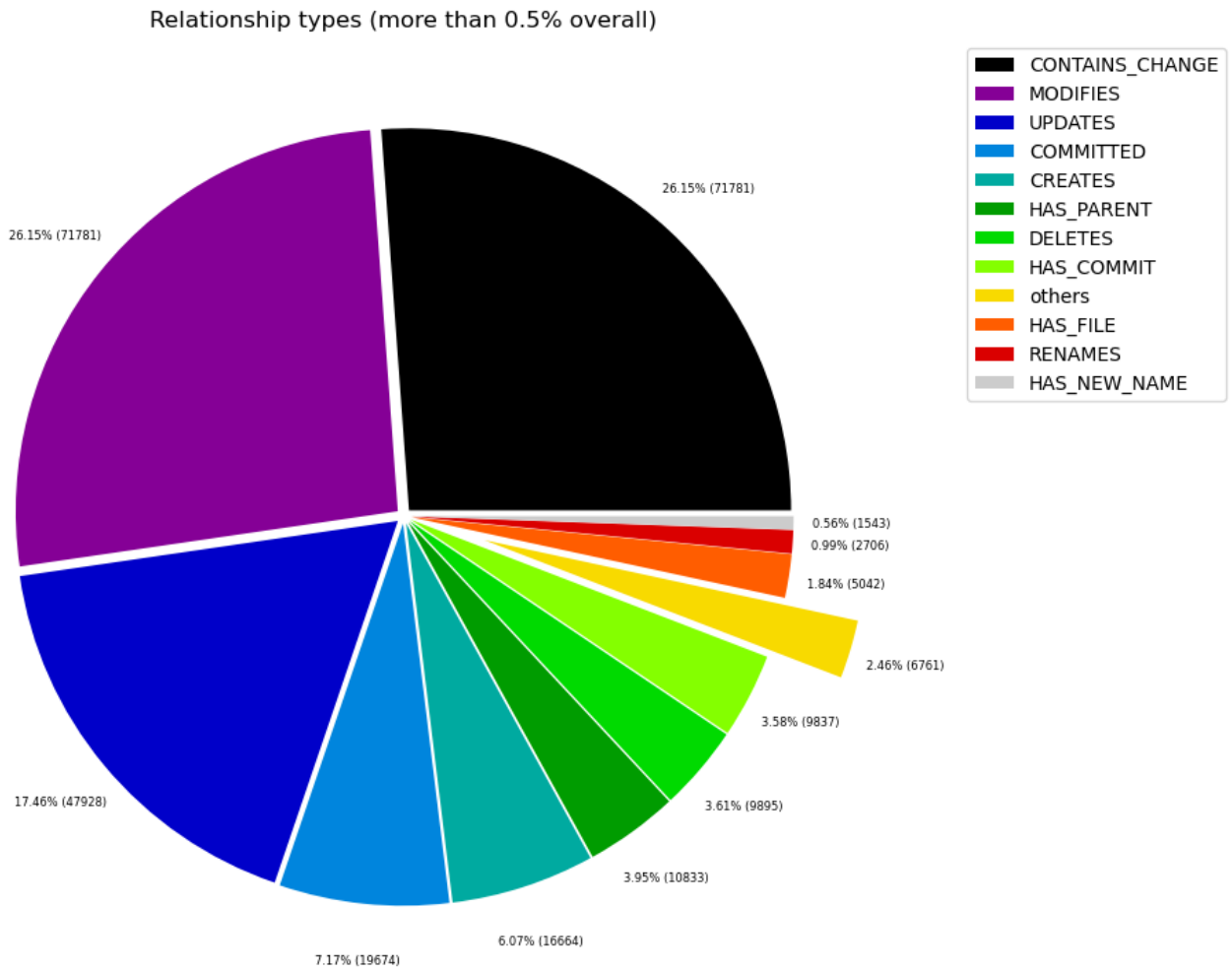


Table 2b - Lowest relationship count by type

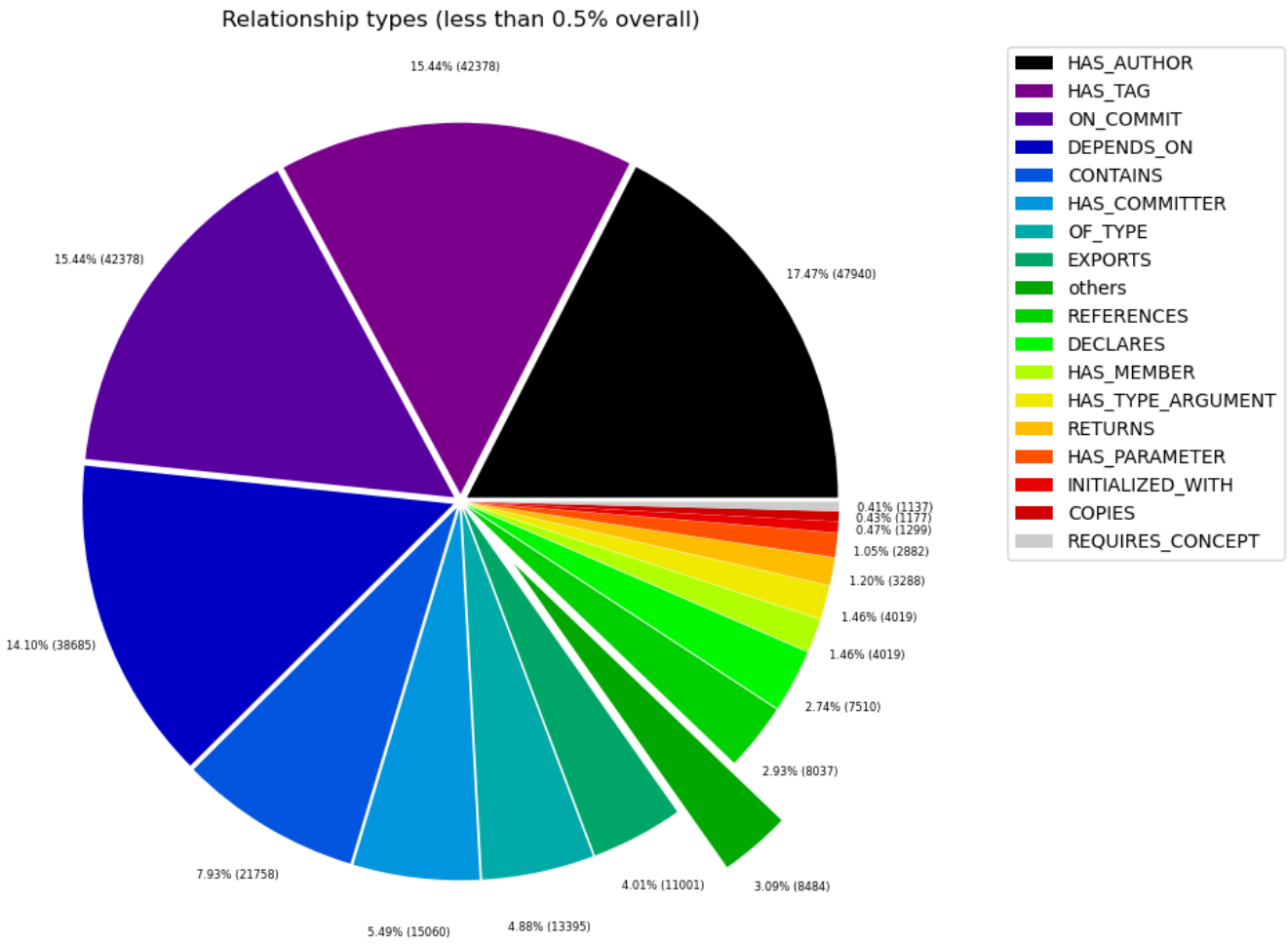
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001457
1	REFERENCED_PROJECTS	5	0.001822
2	MEMBER	6	0.002186
3	HAS_ROOT	6	0.002186
4	HAS_CONFIG	6	0.002186
5	HAS_ARGUMENT	6	0.002186
6	CONTAINS_PROJECT	6	0.002186
7	CALLS	6	0.002186
8	PARENT	6	0.002186
9	EXTENDS	7	0.002551
10	SIMILAR	10	0.003644
11	INCLUDES_CONCEPT	19	0.006923
12	COPY_OF	21	0.007652
13	HAS_BRANCH	24	0.008745
14	USES	25	0.009109
15	HAS_HEAD	25	0.009109
16	RESOLVES_TO	27	0.009838
17	REQUIRES_CONCEPT	28	0.010202
18	COPIES	29	0.010567
19	INITIALIZED_WITH	32	0.011660
20	HAS_PARAMETER	71	0.025870
21	RETURNS	81	0.029514
22	HAS_TYPE_ARGUMENT	99	0.036073
23	HAS_MEMBER	99	0.036073
24	DECLARES	185	0.067409
25	REFERENCES	198	0.072146
26	EXPORTS	271	0.098745
27	OF_TYPE	330	0.120243
28	HAS_COMMITTER	371	0.135182
29	CONTAINS	536	0.195303

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]	CONTAINS_CHANGE	[Git, Change]	71781	9837	
1	[Git, Change]	MODIFIES	[File, Git]	71781	71781	
2	[Git, Change]	UPDATES	[File, Git]	47928	71781	
3	[Git, Change]	CREATES	[File, Git]	16664	71781	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10833	9837	
5	[Git, Change]	DELETES	[File, Git]	9895	71781	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	9837	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	9837	1181	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9837	371	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5042	1	
10	[Git, Change]	RENAMES	[File, Git]	2706	71781	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1543	5042	
12	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1181	1	
13	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1044	1	
14	[Git, Tag]	ON_COMMIT	[Git, Commit]	1044	1044	
15	[Repository, File, Git]	HAS_COMMITTER	[Committer, Git, Person]	371	1	
16	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	280	47	
17	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	211	25	
18	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Primitive, ExternalType]	149	120	
19	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	148	1	
20	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	139	286	
21	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	129	47	
22	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119	120	
23	[Type, TS, Object, ExternalType]	HAS_MEMBER	[Type, TS, ObjectMember, ExternalType]	98	38	
24	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Declared, ExternalType]	78	120	
25	[TS, Interface]	DECLARES	[TS, Property]	61	18	
26	[TS, Property]	OF_TYPE	[Type, TS, Union, ExternalType]	46	65	
27	[File, Directory]	CONTAINS	[File]	46	16	
28	[TS, Variable]	DEPENDS_ON	[TS, ExternalDeclaration]	44	24	
29	[Type, TS, Declared, ExternalType]	HAS_TYPE_ARGUMENT	[Type, TS, Declared, ExternalType]	43	286	

Graph Density

```
total_number_of_nodes (vertices): 90966
total_number_of_relationships (edges): 274445
-> total directed graph density: 3.31666723907259e-05
-> total directed graph density in percent: 0.0033166672390725904
```