

Summary of Syntax Validity of Instance Graphs

Concept	Code	Valid Syntax	Parser Output
rdfs:Resource	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdf:Resource a rdfs:Class .	True	None
rdfs:Literal	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <http://example.com/example> rdf:type rdfs:Literal ; rdfs:label 'This is a literal value' .	True	None
rdfs:Class	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdfs:Class a rdfs:Class ; rdfs:label 'A class' ; rdfs:comment 'This is an example of an RDFS class.' .	True	None
rdfs:Datatype	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . rdfs:Datatype rdf:type rdfs:Class .	True	None
rdfs:Container	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <http://example.org/mycontainer> rdf:type rdfs:Container ; rdfs:label 'This is my container' ; rdfs:member <http://example.org/resource1> , <http://example.org/resource2> ; . <http://example.org/resource1> rdfs:label 'Resource 1' ; . <http://example.org/resource2> rdfs:label 'Resource 2' ; .	True	None
rdfs:label	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . <https://example.com/MyResource> a rdf:Resource ; rdfs:label 'My label' .	True	None
rdfs:comment	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . @prefix ex: <http://www.example.org#> . ex:exampleResource rdfs:comment 'This is an example resource.' .	True	None
rdfs:domain	@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . @prefix ex: <http://example.org/> . ex:Person a rdfs:Class ; rdfs:label 'Person'@en ; rdfs:comment 'A human being.'@en ; rdfs:subClassOf ex:Animal ; rdfs:domain ex:hasName . ex:hasName a rdf:Property ; rdfs:domain ex:NamedEntity ; rdfs:range rdfs:Literal ; rdfs:label 'has name'@en ; rdfs:comment 'The name of something.'@en .	False	at line 10 of <>: Bad syntax (Prefix "rdf:" not bound) at ^ in: "...b'assOf ex:Animal ;\n rdfs:domain ex:hasName .\n\n nex:hasName a ^b'rdf:Property ;\n rdfs:domain ex:NamedEntity ;\n rdfs:range'..."
rdfs:range	@prefix ex: <http://example.com/> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> . ex:Person a rdfs:Class ; rdfs:label 'Person' ; rdfs:comment 'A human being.' . ex:name a rdf:Property ; rdfs:label 'name' ; rdfs:comment 'The name of a person.' ; rdfs:domain ex:Person ; rdfs:range xsd:string .	False	at line 9 of <>: Bad syntax (Prefix "rdf:" not bound) at ^ in: "...b'bel 'Person' ;\n rdfs:comment 'A human being.' .\n\n\n nex:name a ^b"rdf:Property ;\n rdfs:label 'name' ;\n rdfs:comment 'The nam"..."
rdfs:subClassOf	@prefix : <http://example.org/> . @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .	True	None

	:Animal rdfs:subClassOf :LivingThing . :Bird rdfs:subClassOf :Animal . :Fish rdfs:subClassOf :Animal .		
skos:Concept	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:cat a skos:Concept ; skos:prefLabel 'Cat' ; skos:altLabel 'Kitty' ; skos:related ex:domesticAnimal ; skos:broader ex:mammal . ex:dog a skos:Concept ; skos:prefLabel 'Dog' ; skos:altLabel 'Puppy' ; skos:related ex:domesticAnimal ; skos:broader ex:mammal . ex:mammal a skos:Concept ; skos:prefLabel 'Mammal' ; skos:altLabel 'Animal' ; skos:related ex:vertebrate ; skos:narrower ex:cat ; skos:narrower ex:dog . ex:domesticAnimal a skos:Concept ; skos:prefLabel 'Domestic animal' ; skos:altLabel 'Pet' ; skos:related ex:animal ; skos:broader ex:animal . ex:animal a skos:Concept ; skos:prefLabel 'Animal' ; skos:altLabel 'Creature' ; skos:related ex:nature . ex:vertebrate a skos:Concept ; skos:prefLabel 'Vertebrate' ; skos:altLabel 'Animal with backbone' ; skos:related ex:animal ; skos:broader ex:animal .	True	None
skos:Collection	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . <http://example.com/myCollection> a skos:Collection ; skos:prefLabel 'My Collection'@en ; skos:member <http://example.com/myConcept1> , <http://example.com/myConcept2> .	True	None
skos:ConceptScheme	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:myScheme a skos:ConceptScheme ; skos:prefLabel 'My SKOS Concept Scheme' ; skos:definition 'An example SKOS concept scheme' ; skos:hasTopConcept ex:myTopConcept ; skos:hasTopConcept ex:anotherTopConcept . ex:myTopConcept a skos:Concept ; skos:prefLabel 'My Top Concept' ; skos:definition 'An example top-level concept in my SKOS concept scheme' . ex:anotherTopConcept a skos:Concept ; skos:prefLabel 'Another Top Concept' ; skos:definition 'Another example top-level concept in my SKOS concept scheme' .	True	None
skos:OrderedCollection	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . skos:myOrderedCollection rdf:type skos:OrderedCollection ; skos:member skos:concept1 , skos:concept2 , skos:concept3 . skos:concept1 rdf:type skos:Concept ; skos:prefLabel 'Concept 1' . skos:concept2 rdf:type skos:Concept ; skos:prefLabel 'Concept 2' .	True	None

	skos:concept3 rdf:type skos:Concept ; skos:prefLabel 'Concept 3' .		
skos:CollectableProperty	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . skos:CollectableProperty a rdf:Class ; rdf:label 'Collectable Property'@en ; rdf:comment 'A concept property that can be used to group: - concepts that may be collected (e.g. specimens); - concepts that are documented separately (e.g. manuscripts); - concepts that have a separate existence (e.g. coins).'@en .	False	at line 6 of <>: Bad syntax (newline found in string literal) at ^ in: "...b" rdf:comment 'A concept property that can be used to group:"^b\n\n- concepts that may be collected (e.g. specimens);\n\n- conc'..."
skos:topConceptOf	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:myConcept a skos:Concept ; skos:topConceptOf ex:myScheme . ex:myScheme a skos:ConceptScheme .	True	None
skos:semanticRelation	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.org/> . ex:term1 skos:semanticRelation ex:term2 .	True	None
skos:memberList	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.org/> . ex:myList a skos:Concept ; skos:prefLabel 'My List' ; skos:memberList (ex:item1 ex:item2 ex:item3) . ex:item1 a skos:Concept ; skos:prefLabel 'Item 1' . ex:item2 a skos:Concept ; skos:prefLabel 'Item 2' . ex:item3 a skos:Concept ; skos:prefLabel 'Item 3' .	True	None
skos:member	@prefix skos: <http://www.w3.org/2004/02/skos/core#> . @prefix ex: <http://example.com/> . ex:book1 a ex:Book ; skos:member ex:collection . ex:collection a skos:Collection ; skos:member ex:book1, ex:book2 . ex:book2 a ex:Book ; skos:member ex:collection .	True	None
skos:hasTopConcept	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix skos: <http://www.w3.org/2004/02/skos/core#> . <http://example.org/my-vocabulary> rdf:type skos:ConceptScheme ; skos:hasTopConcept <http://example.org/my-vocabulary#Foo> ; skos:hasTopConcept <http://example.org/my-vocabulary#Bar> . <http://example.org/my-vocabulary#Foo> rdf:type skos:Concept ; skos:prefLabel 'Foo'@en . <http://example.org/my-vocabulary#Bar> rdf:type skos:Concept ; skos:prefLabel 'Bar'@en .	True	None
foaf:Agent	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . foaf:Agent rdf:type rdf:Class.	True	None

foaf:Person	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.com/person/Jane> a foaf:Person ; foaf:name 'Jane Doe' ; foaf:age 35 ; foaf:gender 'female' . <http://example.com/person/John> a foaf:Person ; foaf:name 'John Smith' ; foaf:age 42 ; foaf:gender 'male' .</pre>	True	None
foaf:Document	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . foaf:Document rdf:type rdf:Class .</pre>	True	None
foaf:Group	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.com/my-group> a foaf:Group ; foaf:name 'My Group' ; foaf:member <http://example.com/john-doe> , <http://example.com/jane-doe> ; foaf:homepage <http://example.com/my-group-page> .</pre>	True	None
foaf:OnlineAccount	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . foaf:AccountOwner a rdf:Class . foaf:OnlineAccount a rdf:Class ; rdfs:subClassOf foaf:OnlineChatAccount . foaf:account a rdf:Property ; rdfs:domain foaf:AccountOwner ; rdfs:range foaf:OnlineAccount . foaf:homepage a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range rdfs:Resource . foaf:accountName a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range xsd:string . foaf:accountServiceHomepage a rdf:Property ; rdfs:domain foaf:OnlineAccount ; rdfs:range rdfs:Resource .</pre>	False	at line 7 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b'ntOwner a rdf:Class .\n\nfoaf:OnlineAccount a rdf:Class ;\n\n^b'rdfs:subClassOf foaf:OnlineChatAccount .\n\nfoaf:account a rdf..."
foaf:name	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> foaf:name 'John Doe' .</pre>	True	None
foaf:knows	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> a foaf:Person ; foaf:name 'John Doe' ; foaf:knows <http://example.org/person2> . <http://example.org/person2> a foaf:Person ; foaf:name 'Jane Smith' .</pre>	True	None
foaf:based_near	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix geo: <http://www.w3.org/2003/01/geo/wgs84_pos#> . <http://example.org/person1> foaf:name 'John Doe' ; foaf:based_near [geo:lat '37.7749' ; geo:long '-122.4194'] .</pre>	True	None
foaf:accountName	<pre>@prefix foaf: <http://xmlns.com/foaf/0.1/> . @prefix ex: <http://example.org/> . ex:person1 foaf:name 'John Doe' ; foaf:accountName 'johndoe' .</pre>	True	None
foaf:holdsAccount	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> .</pre>	True	None

	<pre>@prefix ex: <http://example.org/> . ex:person1 foaf:holdsAccount [rdf:type foaf:OnlineAccount ; foaf:accountName 'user@example.org' ; foaf:accountServiceHomepage <http://www.example.org/>] .</pre>		
prov:Agent	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://www.example.com/> . ex:person1 a prov:Agent ; prov:name 'John Doe' ; prov:hadActivity ex:activity1 . ex:activity1 a prov:Activity ; prov:wasAssociatedWith ex:person1 .</pre>	True	None
prov:Activity	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . <http://example.org/activity1> a prov:Activity ; prov:label 'Activity 1' ; prov:startTime '2021-01-01T00:00:00Z'^xsd:dateTime ; prov:endTime '2021-01-01T01:00:00Z'^xsd:dateTime .</pre>	False	at line 6 of <>: Bad syntax (Prefix "xsd:" not bound) at ^ in: "...b"bel 'Activity 1' ;\n prov:startTime '2021-01-01T00:00:00Z'^^^b"xsd:dateTime ;\n prov:endTime '2021-01-01T01:00:00Z'^xsd:da"...
prov:Entity	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> . ex:entity1 a prov:Entity ; prov:wasDerivedFrom ex:data1 ; prov:wasGeneratedBy ex:process1 .</pre>	True	None
prov:Collection	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> . ex:collection1 a prov:Collection ; rdfs:label 'My Collection'@en ; prov:hadMember ex:item1, ex:item2, ex:item3 ; prov:wasGeneratedBy ex:process1 ; prov:wasDerivedFrom ex:sourceDataset ; . ex:item1 a prov:Entity ; rdfs:label 'Item 1'@en ; prov:wasGeneratedBy ex:process1 ; . ex:item2 a prov:Entity ; rdfs:label 'Item 2'@en ; prov:wasGeneratedBy ex:process1 ; . ex:item3 a prov:Entity ; rdfs:label 'Item 3'@en ; prov:wasGeneratedBy ex:process1 ; . ex:process1 a prov:Activity ; rdfs:label 'My Process'@en ; prov:used ex:inputDataset . ex:inputDataset a prov:Entity ; rdfs:label 'Input Dataset'@en . ex:sourceDataset a prov:Entity ; rdfs:label 'Source Dataset'@en ; prov:wasGeneratedBy ex:sourceProcess . ex:sourceProcess a prov:Activity ; rdfs:label 'Source Process'@en ; prov:used ex:rawData . ex:rawData a prov:Entity ; rdfs:label 'Raw Data'@en .</pre>	False	at line 5 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b'tp://example.com/> .\n\nex:collection1 a prov:Collection ;\n '^b"rdfs:label 'My Collection'@en ;\n prov:hadMember ex:item1, e"..."
prov:Location	<pre>@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.com/> .</pre>	True	None

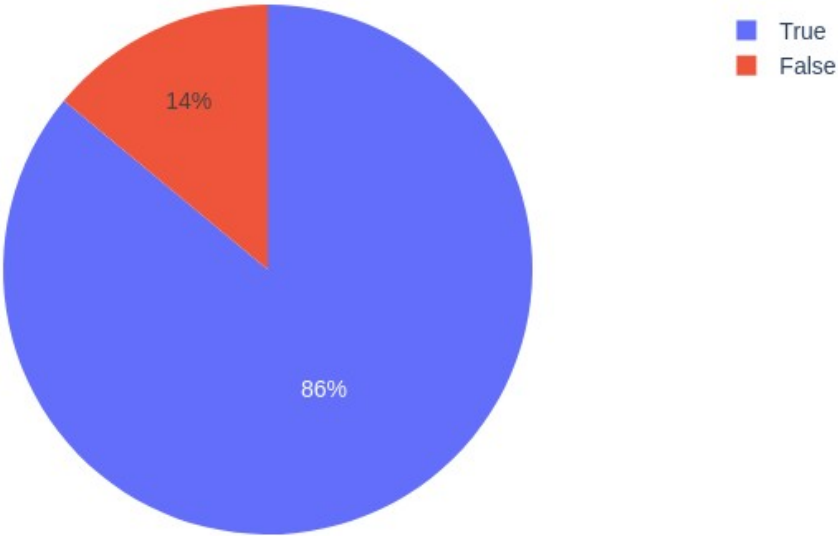
	ex:location1 a prov:Location ; prov:atLocation 'New York' .		
prov:wasGeneratedBy	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> . <http://example.org/document> prov:wasGeneratedBy <http://example.org/tool> . <http://example.org/tool> rdf:type prov:Software ; prov:wasAttributedTo <http://example.org/developer> .	True	None
prov:generatedAtTime	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> . @prefix xsd: <http://www.w3.org/2001/XMLSchema#> . <http://example.com/document> rdf:type prov:Entity ; prov:generatedAtTime '2021-08-10T12:00:00Z'^^xsd:dateTime .	True	None
prov:atLocation	@prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.org/> . ex:entity1 a prov:Entity ; prov:atLocation ex:location1 . ex:location1 a prov:Location ; prov:latitude '51.5072' ; prov:longitude '-0.1276' .	True	None
prov:hadMember	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix prov: <http://www.w3.org/ns/prov#> . @prefix ex: <http://example.org/> . ex:Collection1 a prov:Collection ; prov:hadMember ex:Entity1 ; prov:hadMember ex:Entity2 ; prov:hadMember ex:Entity3 .	True	None
prov:used	@prefix prov: <http://www.w3.org/ns/prov#> . <http://example.com/activity/123> a prov:Activity ; prov:used <http://example.com/resource/456> . <http://example.com/resource/456> a prov:Entity .	True	None
rdf:List	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/> . ex:myList rdf:type rdf:List; rdf:first 'apple'; rdf:rest [rdf:first 'banana'; rdf:rest [rdf:first 'cherry'; rdf:rest rdf:nil]].	True	None
rdf:Bag	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/ns#> . ex:Collection rdf:type rdf:Bag ; rdf:_1 ex:item1 ; rdf:_2 ex:item2 ; rdf:_3 ex:item3 ; rdf:_4 ex:item4 .	True	None
rdf:Statement	@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.com/> . ex:subject1 ex:predicate1 ex:object1 . ex:subject2 ex:predicate2 ex:object2 . ex:statement1 a rdf:Statement ; rdf:subject ex:subject1 ; rdf:predicate ex:predicate1 ; rdf:object ex:object1 . ex:statement2 a rdf:Statement ; rdf:subject ex:subject2 ; rdf:predicate ex:predicate2 ; rdf:object ex:object2 .	True	None

rdf:Property	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . # Define a custom property @prefix ex: <http://example.org/> . ex:hasColor rdf:type rdf:Property ; rdfs:label 'has color' ; rdfs:comment 'Relates an object to its color' .</pre>	False	at line 7 of <>: Bad syntax (Prefix "rdfs:" not bound) at ^ in: "...b"://example.org/> .\n\nex:hasColor rdf:type rdf:Property ;\n\n^b"rdfs:label 'has color' ;\n\nrdfs:comment 'Relates an object'..."
rdf:HTML	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.org/> . ex:myWebpage rdf:type rdf:HTML .</pre>	True	None
rdf:first	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix ex: <http://example.org/> . ex:myList rdf:type rdf:List ; rdf:first 'apple' ; rdf:rest _:b0 . _:b0 rdf:type rdf:List ; rdf:first 'banana' ; rdf:rest _:b1 . _:b1 rdf:type rdf:List ; rdf:first 'cherry' ; rdf:rest rdf:nil .</pre>	True	None
rdf:type	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . @prefix foaf: <http://xmlns.com/foaf/0.1/> . <http://example.org/person1> rdf:type foaf:Person . <http://example.org/person1> foaf:name 'John Doe' .</pre>	True	None
rdf:subject	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . <http://example.org/myresource> rdf:subject <http://example.org/mysubject> .</pre>	True	None
rdf:value	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . <http://example.org/resource1> rdf:value 'example' . <http://example.org/resource2> rdf:value 42 . </pre>	True	None
rdf:rest	<pre>@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> . rdf:nil rdf:rest rdf:nil .</pre>	True	None

The table below shows the occurrences of each category for the tested ontologies.

Ontology Prefix	True Count	False Count	No Response Count
rdfs	8	2	0
skos	9	1	0
foaf	9	1	0
prov	8	2	0
rdf	9	1	0

Figure 1: Occurences of each category of response ('True', 'False', 'None')



The table below shows an overview of the results for each category of tested code.

Code Category	True Count	False Count	No Response Count
Instance Graphs	43	7	0
Shacl Shapes	46	4	0
Sparql Queries	43	7	0