

## QUESTION ANSWERING OVER LINKED DATA

# QALD-1 Open Challenge Test phase: Evaluation results

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Workshop website: <http://www.sc.cit-ec.uni-bielefeld.de/qald-1>

Test questions:

- DBpedia:  
<http://greententacle.techfak.uni-bielefeld.de/~cunger/qald1/dbpedia-test-questions.xml>
- MusicBrainz:  
<http://greententacle.techfak.uni-bielefeld.de/~cunger/qald1/dbpedia-test-questions.xml>

Results for DBpedia:

	total	processed	right	wrong	recall	precision	f-measure
FREyA	50	43	27	16	0.54	0.63	0.58
PowerAqua	50	46	24	22	0.48	0.52	0.5

Results for MusicBrainz:

	total	processed	right	wrong	recall	precision	f-measure
FREyA	50	41	33	8	0.66	0.8	0.71
SWIP	50	35	28	7	0.56	0.8	0.66

On the following pages, you find the detailed results of all participating systems.

## PowerAqua (DBpedia)

id	question	precision	recall	f-measure
28	Which “states of Germany” are governed by the Social Democratic	1	1	1
29	In which films directed by Garry Marshall was Julia Roberts star	1	1	1
24	What is the highest mountain in Germany?	0.00441	1	0.00878
25	Give me the homepage of Forbes.	1	1	1
26	Give me all soccer clubs in Spain.	0.84635	0.98246	0.90934
27	What is the revenue of IBM?	1	1	1
20	Which European countries are a constitutional monarchy?	1	1	1
21	How many monarchical countries are there in Europe?	0	0	0
22	Which “European union members” adopted the Euro?	0.9375	1	0.96774
49	How tall is Claudia Schiffer?	1	1	1
46	What place is the highest place of Karakoram?	1	1	1
23	Which presidents of the United States had more than three childr	0.03125	0.25	0.05556
44	Which locations have more than two caves?	0.125	0.05556	0.07693
45	Which mountain is the highest after the Annapurna?	0	0	0
42	Which bridges are of the same type as the Manhattan Bridge?	0	0	0
43	Which river does the Brooklyn Bridge cross?	1	1	1
40	Who is the author of WikiLeaks?	1	1	1
41	Give me the designer of the Brooklyn Bridge.	1	1	1
1	Which companies are in the computer software?	0.01309	0.22222	0.02472
3	Give me the official websites of actors of the television show C	0	0	0
2	Which telecommunications organizations are located in Belgium?	0	0	0
5	What are the official languages of the Philippines?	0.66667	1	0.8
4	Give me the capitals of all U.S. states.	0	0	0
7	Where did Abraham Lincoln die?	1	1	1
6	Who is the mayor of New York City?	1	1	1
9	Which countries have more than two official languages?	0	0	0
8	When was the “Battle of Gettysburg”?	1	1	1
39	Which “states of the united states” possess native gold?	1	0.5	0.66667
47	What did Bruce Carver die from?	1	1	1
12	Which classis does the Millepede belong to?	1	1	1
14	Was Andrew Jackson involved in a war?	1	1	1
11	What is the area code of Berlin?	0	0	0
10	Is Michelle the wife of President Obama?	1	1	1
13	In which country is the Limerick Lake?	1	1	1
38	Which states border Utah?	0	0	0
15	What is the profession of Frank Herbert?	1	1	1
48	When did Germany join the EU?	0	0	0
17	Which state of the United States of America has the highest dens	0	0	0
16	Who is the owner of Universal Studios?	0.66667	1	0.8
19	What is the currency of the Czech Republic?	1	1	1
18	Give me all cities in New Jersey with more than 100000 inhabitan	0.5	0.25	0.33333
31	Which museum exhibits The Scream?	1	1	1
30	Is proinsulin a protein?	1	1	1
37	Who is the daughter of Bill Clinton married to?	0	0	0
36	Which “monarchs of the United Kingdom” were married to a German?	0.5	1	0.66667
35	Is Egypts largest city also its capital?	0	0	0
34	Through which countries flow the Yenisei river?	0.33333	0.5	0.4
33	Give me the creator of Goofy?	1	1	1
32	Which television shows were created by Walt Disney?	1	1	1
50	In which country does the “Nile” start?	0.4	1	0.57143

## SWIP (MusicBrainz)

id	question	precision	recall	f-measure
28	?Album: EP; creator= Muse. COUNT	1	1	1
29	Sabotage: ?vocal.	1	1	1
36	?Album: live; Rolling Stones. COUNT	1	1	1
24	?Album: bootleg; Pink.Floyd. ASK	1	1	1
21	?Album: compilation; song= Waterloo. Waterloo: ABBA.	0.63158	1	0.77419
22	Madonna: married_to= Guy_Ritchie; ?divorce_date.	0	0	0
23	Artist: member_of= The_Beatles; ?spouse.	1	1	1
46	John.Lennon: ?children. COUNT	1	1	1
44	?Album: Audiobook; Paul_Auster.	1	1	1
48	?Album: live; Nat_King_Cole.	1	1	1
42	Shakira: ?collaboration.	1	1	1
43	Single: title= The_Girl_Is_Mine; ?creator.	1	1	1
40	Kurt.Cobain: children. ASK	1	1	1
41	The_Hobbit: Audiobook; ?creator.	0	0	0
1	?Album: Soundtrack; Clannad.	1	1	1
3	?cd: Interview; J.R.R.Tolkien. ASK	1	1	1
2	?band: founded_in= date<2010>.	0.70192	0.32018	0.43976
5	Over_the_Rainbow: ?artist.	1	1	1
6	Abbey_Road: ?song.	1	1	1
39	The_Beatles: ?foundation_date.	1	1	1
12	Michael.Jackson: ?sibling.	1	1	1
11	?Artist: member_of= The_Muppets.	1	1	1
13	?Album: Interview; Queen.	1	1	1
38	?Album: Soundtrack; Composer= Hans_Zimmer. COUNT	0	0	0
15	?Album: Soundtrack; Composer= John_Williams.	1	1	1
14	?cd: Audiobook; J.R.R.Tolkien. COUNT	1	1	1
17	Ludwig_van_Beethoven: ?birth_date.	0	0	0
33	John.Lennon: married. ASK	1	1	1
18	West.Side.Story: ?Lyricist.	1	1	1
30	?Artist: birth_date= date<1966>. COUNT	0	0	0
37	?Album: live; Beatles. ASK	1	1	1
50	The_Who: ?foundation_date.	1	1	1
34	Kurt.Cobain: ?band.	1	1	1
19	?Album: EP; creator= Celldweller.	1	1	1
32	?band: member= Robbie_Williams.	1	1	1

## FREyA (MusicBrainz)

id	question	precision	recall	f-measure
28	How many EPs did Muse release?	1	1	1
43	Who created The Girl Is Mine (a CD single)?	0	0	0
49	Who was born on the same day as Frank Sinatra?	0.5	1	0.66667
24	Are there bootleg CD recordings by Pink Floyd?	1	1	1
25	How many members does the largest group have?	0	0	0
26	Which rock album has the most tracks?	0	0	0
27	When was the daughter of Elvis Presley born?	1	1	1
20	What is the longest song by John Cage?	0	0	0
21	Which compilations does the song Waterloo by ABBA appear on?	0	0	0
22	When did Madonna get divorced with Guy Ritchie?	0	0	0
23	Give me the spouses of all members of The Beatles.	1	1	1
46	How many children did John Lennon have?	1	1	1
47	Which member of The Beatles was married more than once?	0	0	0
44	Give me all audiobooks by Paul Auster.	1	1	1
45	How many jazz compilations are there?	0	0	0
42	Give me the collaborations of Shakira.	1	1	1
29	Who did the vocals on the album Sabotage?	1	1	1
40	Did Kurt Cobain have children?	1	1	1
41	Who is the creator of The Hobbit audiobook?	0	0	0
1	Which soundtrack did Clannad record?	1	1	1
3	Are there any interviews with J.R.R. Tolkien?	1	1	1
2	Which bands were founded in 2010?	0	0	0
5	Which artists performed the song "Over the Rainbow" ?	0	0	0
4	How many bands are called Queen?	1	1	1
7	What is the third song on the album In the Wee Small Hours?	0	0	0
6	Give me all songs on the album Abbey Road.	0	0	0
9	Did Elvis Presley record albums that are jazz?	1	1	1
8	How many bands are called Air?	0	0	0
18	Who wrote the lyrics for West Side Story?	1	1	1
13	Which albums contain interviews with Queen?	1	1	1
12	Give me all siblings of Michael Jackson.	1	1	1
11	Give me all members of The Muppets.	1	1	1
10	Which songs by Miles Davis are longer than 20 minutes?	0	0	0
39	When were The Beatles founded?	1	1	1
38	How many soundtracks did Hans Zimmer compose?	0	0	0
15	Give me all soundtracks composed by John Williams.	1	1	1
14	How many audiobooks by J.R.R. Tolkien are there?	1	1	1
17	When was Ludwig van Beethoven born?	1	1	1
16	Which person recorded the most singles?	0	0	0
19	Give me all Celldweller EPs.	1	1	1
32	Which bands was Robbie Williams a member of?	1	1	1
31	Is there a group called Michael Jackson?	1	1	1
30	How many artists were born in 1966?	0	0	0
37	Are there any live albums by the Beatles?	1	1	1
36	How many live albums did The Rolling Stones release?	1	1	1
35	Which bands released more than 100 singles?	0	0	0
34	In which bands did Kurt Cobain play?	1	1	1
33	Was John Lennon married?	1	1	1
48	List live albums by Nat King Cole.	1	1	1
50	Since when does The Who exist?	1	1	1

## FREyA (DBpedia)

id	question	precision	recall	f-measure
28	Which states of Germany are governed by the SPD?	0.4	0.5	0.44444
50	In which country is the source confluence of Nile?	0	0	0
24	What is the highest mountain in Germany?	0	0	0
25	Give me the homepage of Forbes.	1	1	1
26	Give me all soccer club in Spain.	1	0.97368	0.98666
27	What is the revenue of IBM?	0	0	0
20	Which European countries are governed as a Constitutional monarch	1	1	1
21	How many European countries are governed as monarchy?	0	0	0
22	Which European Union member states adopted the Euro?	0.9375	1	0.96774
49	How tall is Claudia Schiffer?	0.5	1	0.66667
46	What is the highest place of Karakoram?	1	1	1
23	Which presidents of the United States had more than three childr	0	0	0
44	Which locations have more than two caves?	0	0	0
45	Which mountain is the highest after the Annapurna?	0	0	0
42	Which bridges are of the same type as the Manhattan Bridge?	0.13	1	0.23009
43	Which river does the Brooklyn Bridge cross?	1	1	1
40	Who is the author of WikiLeaks?	1	1	1
41	Who designed Brooklyn Bridge?	0	0	0
1	Which companies are in the industry of computer software?	0.08182	0.75	0.14754
3	Give me the official websites of actors of the television show C	1	1	1
2	Which telecommunications companies are located in Belgium?	1	0.4	0.57143
5	What are the official languages of Philippines?	1	1	1
4	What are capitals of states of the United States?	0	0	0
7	Where did Abraham Lincoln die?	1	1	1
6	Who is the mayor of New York City?	0	0	0
9	Which countries have more than two official languages?	0	0	0
8	When was the Battle of Gettysburg?	1	1	1
13	In which country is the Limerick Lake?	1	1	1
47	What did Bruce Carver die from?	1	1	1
12	Which classis does the Millipede belong to?	1	1	1
29	In which films directed by Garry Marshall was Julia Roberts star	1	0.33333	0.5
14	Was U.S. president Jackson involved in a war?	1	1	1
11	What is the area code of Berlin?	1	1	1
10	Is the wife of President Obama called Michelle?	1	1	1
39	Which states of the United States possess minerals that are gold	1	0.5	0.66667
38	Which states border Utah?	0	0	0
15	What is the occupation of Frank Herbert?	1	1	1
48	When did Germany join the EU?	0	0	0
17	Which state of the United States of America has the highest dens	0	0	0
16	Who is the owner of Universal Studios?	0.66667	1	0.8
33	Who is creator of Goofy?	0.33333	1	0.5
18	Give me all cities in New Jersey with more than 100000 inhabitan	0	0	0
30	Is proinsulin a protein?	1	1	1
37	spouse of daughter of Bill Clinton	1	1	1
36	Which monarchs of the United Kingdom had a spouse from Germany?	0.66667	1	0.8
35	Which museum exhibits The Scream by Munch?	0	0	0
34	Through which countries does the Yenisei River flow?	1	1	1
19	What is the currency of Czech Republic?	1	1	1
32	Which television shows were created by Walt Disney?	1	1	1