Comparison ODK forms - demo

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```
root = r"C:\Users\langhe\switchdrive\Institution\TIMCI\1 Project details\11 DM\3 ODK\odk_forms"
```

SPA exit interview comparisons

```
in_xlsx1 = os.path.join(root, r"06 Tanzania\2-SPA-timeflow\02-TIMCI-SPA-CGEI-ref-form\02-TIMCI-SPA-CGEI-ref-form.xlsx")
in_xlsx2 = os.path.join(root, r"05 Senegal\2-SPA-timeflow\02-TIMCI-SPA-CGEI-ref-form\02-TIMCI-SPA-CGEI-ref-form.xlsx")
f1 = form.Form(in_xlsx1,
               survey = "SPA exit interview")
f2 = form.Form(in_xlsx2,
               survey = "SPA exit interview")
```

Generic comparison

```
print(f1.compare(f2))
```

```
Form ID is identical: 02-TIMCI-SPA-cgei
Versions are different: 0.445 and 0.441
Default languages are different: Swahili (sw) and Français (fr)
```

Comparison based on variable names

Modified variable names

Note:

- Identified added questions are displayed with the variable name and label of the closest label match in the reference XLSForm.
- Identified removed questions are displayed with the variable name and label of the closest label match in the target XLSForm.

```
f1.addedQuestions(f2)
```

Table 1: SPA exit interview - Senegal vs. Tanzania - Added variable names

	name	label	name_of_closest_lbl	closest_lbl	matching_score
0	i4_3	f2) Were you given a paper or record to take w...	i4_2	f1) When do you need to complete the referral?	0.568164
1	h4_2	g1) Can you show me all the medicines and pres...	h4_1	e2) Did the provider give or prescribe any med...	0.535274
2	m3_2	k3) How many children under age 5 years curren...	m3_1b	j19) Who is the head of your household?	0.500000
3	m3_5	k6) What type of stove do you use for cooking ...	m3_3	j21) What type of toilet is the main toilet do...	0.532631
4	m3_5o	k6.a) Please specify.	b1_8o	j2.a) Please specify.	0.674594

```
f1.removedQuestions(f2)
```

Modified labels for the same variable name

```
major, minor = f1.modifiedLabel(f2)
```

```
major
```

```
minor
```

Table 2: SPA exit interview - Senegal vs. Tanzania - Minor label modifications

	name	row1	label1	row2	label2
0	i4_1	26	e1) Did the provider refer the child?	42	e2) Did the provider refer the child?
1	h4_1	27	e2) Did the provider give or prescribe any med...	43	e3) Did the provider give or prescribe any med...
2	g5_1	28	e3) Did the provider tell you what illness you...	41	e1) Did the provider tell you what illness you...
3	h4_3	47	g2) Did the provider explain to you how to giv...	64	g2) Did the provider explain to you how to giv...
4	m3_1b	109	j19) Who is the head of your household?	111	k2) Who is the head of your household?
5	m3_3	110	j21) What type of toilet is the main toilet do...	113	k4 What type of toilet is the main toilet do h...
6	m3_3o	111	j21.a) Please specify.	114	k4.a) Please specify.
7	m3_4	112	j22) Is this toilet shared with another househ...	115	k5) Is this toilet shared with another household?
8	m3_6	113	j24) Where is the household's main source of d...	118	k7) Where is the household's main source of dr...
9	m3_7	114	j25) How much time does it take to the househo...	119	k8) How much time does it take to the househol...
10	m3_8a	115	j26) What type of floor do you have at home?	120	k9) What type of floor do you have at home?
11	m3_9a	116	j27) What type of roof do you have at home ?	121	k10) What type of roof do you have at home ?

RCT Day 0 form comparison

```
in_xlsx3 = os.path.join(root, r"06 Tanzania\1-RCT-LS\01a-TIMCI-CRF-Facility-ref-form\01a-TIMCI-CRF-Facility-ref-form.xlsx")
in_xlsx4 = os.path.join(root, r"05 Senegal\1-RCT-LS\01a-TIMCI-CRF-Facility-Senegal-form\01a-TIMCI-CRF-Facility-Senegal-form.xlsx"
f3 = form.Form(in_xlsx3,
                survey = "RCT/LS day 0 form")
f4 = form.Form(in_xlsx4,
                survey = "RCT/LS day 0 form")


## Generic comparison


print(f3.compare(f4))
```

```
Form ID is identical: 01a-TIMCI-CRF-Facility
Versions are different: 0.356 and 0.347
Default languages are different: Swahili (sw) and Français (fr)
```

Comparison based on variable names

Modified variable names

```
f3.addedQuestions(f4)
```

Table 3: Main Day 0 - Senegal vs. Tanzania - Added variable names

	name	label	name_of_closest_lbl	closest_lbl
0	consent_img	d6) Please take a picture of the signed consent.	booklet_pic	l5.b) Please take a picture of the child bookl
1	a4_c_6	g11) Can you specify in which area you are liv...	a4_c_4a_tanga	f10) In what ward are you living?
2	a4_c_7	g11.a) Please specify.	a4_c_4b_oth	f11.a) Please specify.
3	location_name	Location name	child_lname	Child last name
4	location_type	Location type	m2_5	j8) What type of birth was it?
5	location_rurb	Rural or urban	a4_c_4b	f11) In what urban neighborhood / village a
6	cp_start		child_lname	Child last name
7	cp_start_dec		child_lname	Child last name

	name	label	name_of_closest_lbl	closest_lbl
8	cp_start_disp		child_lname	Child last name
9	injection	k5) Did ${child_fname} receive an injection?	vaccine_injection	n21) Did ${child_fname} receive an immuni...
10	injection_types	k6) What type of injection was it?	m2_5	j8) What type of birth was it?
11	injection_typeso	k6.a) Please specify.	c1_a_11o	i16.a) Please specify.
12	paracetamol_route	k14) Please indicate the administration route ...	quinine_route	n16) Please indicate the administration rout...
13	salbutamol_route	k19) Please indicate the administration route ...	quinine_route	n16) Please indicate the administration rout...
14	b2_3	i9) What is the estimated amount of money you ...	a3_a_10	c1) What is the main reason for you to brin...
15	i2_1a	l13) What type of referral was it?	i2_1b	o14) What was the name of the referral facil...
16	h2_2ayn	l17) Were treatments recorded for ${child_fnam...	child_hfid_yn	m1) Is there a registration number allocated...
17	amoxicillin_hf	Amoxicillin (Amox) OR Clamoxyl OR Bactox OR Al...	amoxicillin	n2) Amoxicillin (Amox) OR Amoxil/Amoxil...
18	penig_hf	Benzylpenicillin OR Benpen	penig	n7) Benzylpenicillin (Benpen) OR Penicillin...
19	ceftriaxone_hf	Ceftriaxone OR Rocephin	ceftriaxone	n8) Ceftriaxone OR Rocephin
20	ciprofloxacin_hf	Ciprofloxacin OR Ciproxin OR Cifran	ciprofloxacin	n9) Ciprofloxacin OR Cipon
21	ciprofloxacin_route_hf	Please indicate the administration route of ci...	ciprofloxacin_route	n9.a) Please indicate the administration rou...
22	gentamicin_hf	Gentamicin OR Gentalline	gentamicin	n12) Gentamicin (Genta)
23	gentamicin_route_hf	Please indicate the administration route of ge...	gentamicin_route	n12.a) Please indicate the administration rou...
24	metronidazol_hf	Metronidazol OR Flagyl	metronidazol	n11) Flagyl OR Metronidazole (Metro)
25	metronidazol_route_hf	Please indicate the administration route of Me...	metronidazol_route	n11.a) Please indicate the administration rou...
26	ampicillin_hf	Ampicillin OR Totapen	ampicillin	n4) Ampicillin OR Ampiclox
27	azithromycin_hf	Azithromycin OR Zithromax	azithromycin	n5) Azithromycin OR Zithromax
28	benzathine_hf	Benzathine benzylpenicillin (benzathine penici...	benzathine	n6) Benzathine benzylpenicillin (benzathine...
29	aclav_hf	Co-amoxiclav OR Aclav OR Soclav OR Augmentin	aclav	n3) Amoxicillin + clavulanic acid OR Amox...
30	cotrimoxazole_hf	Co-trimoxazole OR Septrin OR Bactrim	cotrimoxazole	n10) Cotrimoxazol (CTX / SMX-TMP / CM...
31	antibiotics_hf	l19) Please indicate if any of the following a...	antibiotics	n13) Please indicate if any of the following a...
32	antimalarials_hf	l20) Please indicate if any of the following a...	antimalarials	n14) Please indicate if any of the following a...
33	artesunate_route_hf	l20.a) Please indicate the administration rout...	artesunate_route	n15) Please indicate the administration rout...
34	quinine_route_hf	l20.b) Please indicate the administration rout...	quinine_route	n16) Please indicate the administration rout...
35	h2_2a	l21) Please select all the other drugs and tre...	h2_2	n20) Please select all the other treatments t...
36	h2_2ao	l21.a) Please specify.	m3_3o	j21.a) Please specify.
37	paracetamol_route_hf	l20) Please indicate the administration route ...	quinine_route	n16) Please indicate the administration rout...
38	salbutamol_route_hf	l25) Please indicate the administration route ...	quinine_route	n16) Please indicate the administration rout...
39	f2_5	o5) Haemoglobin level (in g/dL)	f2_5dec	r5) Haemoglobin level (in g/dL)

```
f3.removedQuestions(f4)
```

Table 4: Main Day 0 - Senegal vs. Tanzania - Removed variable names

	name	label	name_of_closest_lbl	closest_lbl	ma
0	district1	a1) Please select the current district	a3_b_4	c4) Please select the facility of last enrolme...	0.5
1	fcode	a2) Please select the current facility	a3_b_4	c4) Please select the facility of last enrolme...	0.6
2	arm	Intervention	a1_a_4a	d7.b) If QR code scanning is not possible, ple...	0.5
3	contact_start		location_name	Location name	0.5
4	contact_start_dec		location_name	Location name	0.5
...	...	...	...	...	...
69	c3_3a	s4) Is the TB status recorded?	c3_4	p5) Is the sickle-cell status recorded?	0.6
70	c3_6a	s6) Are any disabilities recorded?	rxothermain	l10) Are any of the following entries recorded...	0.5
71	c3_6	s7) What disability is recorded?	g3_1	l11.a) What are the other diagnoses recorded?	0.5
72	c3_6o	s7.a) Please specify	b2_1o	i7.a) Please specify.	0.6
73	varia	t1) Any other thing you would like to mention ...	c1_a_11	h16) Anything else prompting you to bring ${ch...	0.5

Modified labels for the same variable name

```
major, minor = f3.modifiedLabel(f4)
```

```
major
```

Table 5: Main Day 0 - Senegal vs. Tanzania - Major label modifications

	name	row1	label1	row2	label2
0	a4_c_9a	147	f8) Can you mention the name of your village l...	169	g8) Is there a focal point within the communit...
1	a4_c_9	148	f8.a) Can you mention the name of your balozi ...	170	g9) Can you indicate the name of the focal poi...
2	a4_c_4	149	f9) In what division are you living?	171	g10) In what area / village are you living?
3	referral_note	291	l3) Were you given a paper or record to take w...	216	k3) Do you have a referral note ?
4	h2_1a	296	l6) Did the healthcare provider give you drugs...	221	k7) Did the healthcare provider give you a dru...
5	h2_1b	297	l6.a) Can I take a picture of your drugs/presc...	222	k8) Can I take a picture of your drug prescrip...
6	h2_1c	298	l6.b) Please take a picture of the prescriptio...	223	k9) Please take a picture of the drug prescrip...
7	b1_9	305	m3) What type of visit was it according to the...	211	k1) What type of visit was it?
8	amoxicillin	314	n2) Amoxicillin (Amox) OR Amoxil/Amoxillin DT	225	Amoxicilline (Amox) OU Clamoxyl OU Bactox OU A...
9	aclav	315	n3) Amoxicillin + clavulanic acid OR Amoxiclav...	237	Amoxicilline + Acide Clavulanique (Aclav) OU C...
10	ampicillin	316	n4) Ampicillin OR Ampiclox	234	Ampicilline (Ampi) OU Totapen
11	azithromycin	318	n5) Azithromycin OR Zithromax	235	Azithromycine OU Zithromax

	name	row1	label1	row2	label2
12	benzathine	319	n6) Benzathine benzylpenicillin (benzathine pe...	236	Benzathine-benzylpénicilline OU Extencilline O...
13	penig	320	n7) Benzylpenicillin (Benpen) OR Penicillin G/...	226	Benzylpenicilline OU PéniG
14	ceftriaxone	321	n8) Ceftriaxone OR Rocephin	227	Ceftriaxone OU Rocéphine
15	ciprofloxacin	322	n9) Ciprofloxacin OR Cipon	228	Ciprofloxacine OU Ciproxin OU Cifran
16	cotrimoxazole	324	n10) Cotrimoxazol (CTX / SMX-TMP / CMX) OR Sep...	238	Cotrimoxazol (Cotri/Cotrim) OU Bactrim
17	metronidazol	325	n11) Flagyl OR Metronidazole (Metro)	232	Metronidazole OU Flagyl
18	gentamicin	327	n12) Gentamicin (Genta)	230	Gentamicine OU Gentalline
19	antibiotics	329	n13) Please indicate if any of the following a...	239	k11) Please indicate if any of the following a...
20	antimalarials	330	n14) Please indicate if any of the following a...	240	k12) Please indicate if any of the following a...
21	h2_2	336	n20) Please select all the other treatments th...	243	k13) Please select all the other drugs/treatme...
22	rxsevere	345	o2) Severe disease / severe febrile disease	305	l2) Severe disease / severe febrile disease / ...
23	e2_2a	380	p4) SpO2 value	370	m4) SpO2 value (in %)
24	f2_10a	409	r6a) Choose the unit of Blood glucose value	395	o6) Blood glucose value (in mg/dL)

minor

Table 6: Main Day 0 - Senegal vs. Tanzania - Minor label modifications

	name	row1	label1	row2	label2
0	dobk	20	b1) Do you know the date of birth of the child?	14	a1) Do you know the date of birth of the child?
1	a3_a_7	24	b2) What is the exact date of birth of the child?	18	a2) What is the exact date of birth of the child?
2	a3_a_4	34	b3) What are the year and month of birth of th...	28	a3) What are the year and month of birth of th...
3	yob	35	b4) What is the year of birth of the child?	29	a4) What is the year of birth of the child?
4	quarter	36	b5) Can you further specify in what quarter of...	30	a5) Can you further specify in what quarter of...
...	...	...	...	...	...
118	d2_3b	396	q6.a) WFA z-score	385	n6.a) WFA z-score
119	f2_1	400	r1) What type of laboratory tests were ordered...	388	o1) What type of laboratory tests were ordered...
120	f2_1o	401	r1.a) Please specify	389	o1.a) Please specify
121	f2_3	404	r3) Malaria test result	391	o3) Malaria test result
122	c3_4	426	s5) Is the sickle-cell status recorded?	397	p5) Is the sickle-cell status recorded?

Inter-form tests

f3.addedQuestions(f1)

	name	label	name_of_closest_lbl	closest_lbl	matching_
0	fname	Facility name	b1_1a	i5) What is the name of the facility ${child_f...	0.601125
1	ccode	Country code	former_timci_id2	d2.b) If QR code scanning is not possible, ple...	0.525865
2	i4_1	e1) Did the provider refer the child?	provider_name	I8) Name of the provider who has seen the child	0.587415
3	h4_1	e2) Did the provider give or prescribe any med...	h2_1a	l6) Did the healthcare provider give you drugs...	0.582277
4	g5_1	e3) Did the provider tell you what illness you...	provider_name	I8) Name of the provider who has seen the child	0.563546
5	i4_2	f1) When do you need to complete the referral?	referral_note	l3) Were you given a paper or record to take w...	0.601808
6	i4_5	f3) Were you told <u>why</u> to go?	a4_a_10a	f3) Is there a phone number at which you can b...	0.501192
7	i4_4	f4) Were you told <u>where</u> to go?	referral_note	l3) Were you given a paper or record to take w...	0.500000
8	i4_4o	f4.a) Please specify.	m2_1o	j1.a) Please specify.	0.671066
9	i4_6	f5) What do you intend to do now?	a3_c_3a	c5) Do you know your age in years ?	0.531766
10	i4_6o	f5.a) Please specify what you intend to do.	a4_a_11o	f5.a) Please specify.	0.667188
11	i4_6a	f6) What type of facility will you go to?	b1_2a	i3) You mentioned that you went to another hea...	0.580970
12	i4_6b	f7) Where will you look for treatment?	b1_2b	i7) You mentioned that you sought care / treat...	0.538913
13	i4_6c	f8) Who will you ask for advice?	j2_1	o15) Was a follow-up visit advice recorded for...	0.526051
14	i4_6co	f8.a) Please specify.	b1_4o	i8.a) Please specify.	0.726852
15	h4_3	g2) Did the provider explain to you how to giv...	b2_2	i10) How long did it take you to travel from y...	0.557338
16	h4_4	g3) How confident do you feel in how much of t...	m2_7a	j13) At how many weeks of pregnancy did you gi...	0.544542
17	j4_2	h1) Were you informed of signs / symptoms that...	a3_a_10	c1) What is the main reason for you to bring t...	0.579410
18	j4_2a	h1.a) Can you specify these signs and symptoms?	f2_1o	r1.a) Please specify	0.541672
19	j4_1	h2) What do you intend to do if the sick child...	sym_no_appetite	i7) Completely unable to eat or drink	0.543545
20	j4_1d	h2.a) Can you specify what you will do?	i2_1a1_cgo	l2.a) Please specify	0.560804
21	j4_1a	h3) What type of facility will you go to?	b1_2a	i3) You mentioned that you went to another hea...	0.583040
22	j4_1b	h4) Where will you look for treatment?	b1_2b	i7) You mentioned that you sought care / treat...	0.535992
23	j4_1c	h5) Who will you ask for advice?	j2_1	o15) Was a follow-up visit advice recorded for...	0.529394
24	h4_6	h6) Were you given general information or advi...	m2_9	j17) How many months did you breastfeed with a...	0.597957
25	e4_2	c2) Can you explain to me why this device was ...	e4_1	l7) Did the provider use the device that is re...	0.518603
26	e4_3	c3) Did the provider explain to you the result...	e4_1	l7) Did the provider use the device that is re...	0.596254
27	k2_1	d1) Did the provider use a tablet like this on...	e4_1	l7) Did the provider use the device that is re...	0.628670
28	k2_2	d2) Did the provider explain to you why he was...	e4_1	l7) Did the provider use the device that is re...	0.533579
29	k2_2a	d3) Was the explanation given to you only or a...	a3_a_10	c1) What is the main reason for you to bring t...	0.542980
30	k2_3	d4) How did you feel with the fact that the pr...	e4_1	l7) Did the provider use the device that is re...	0.631000
31	l3_1	i1) How do you feel overall with the service y...	a3_a_10	c1) What is the main reason for you to bring t...	0.565296

	name	label	name__of__closest__lbl	closest__lbl	matching_
32	l3_2	i2) Did you feel the provider treated you and ...	provider_name	I8) Name of the provider who has seen the child	0.552379
33	l3_3	i3) Did you find the provider was kind to you?	provider_name	I8) Name of the provider who has seen the child	0.534233
34	l3_4	i4) Did you find the provider showed concern a...	provider_name	I8) Name of the provider who has seen the child	0.517919
35	l3_5	i5) Did the provider speak in a language you u...	provider_name	I8) Name of the provider who has seen the child	0.519449
36	l3_6	i6) Was the service delayed or were you kept w...	referral_note	l3) Were you given a paper or record to take w...	0.522817
37	l3_7	i7) Would you recommend this facility to a fri...	b1_2a	i3) You mentioned that you went to another hea...	0.527586
38	b1_7	j1) Is this facility the closest health facili...	b1_2a	i3) You mentioned that you went to another hea...	0.595017
39	b1_8	j2) What is the main reason for you to choose ...	a3_a_10	c1) What is the main reason for you to bring t...	0.653802
40	b1_8o	j2.a) Please specify.	a4_c_4c_oth	f12.a) Please specify.	0.704197
41	b2_10	j3) Did you miss work to bring the child to th...	a3_a_10	c1) What is the main reason for you to bring t...	0.670657
42	b2_10a	j4) How many work days did you miss as the res...	j2_1c	o16) In how many days should the follow-up vis...	0.541587
43	b2_9a	j5) Did you pay for something at the facility ...	a3_a_10	c1) What is the main reason for you to bring t...	0.597064
44	b2_9b	j6) What did you pay for?	m2_3	j6) Does ${child_fname} have a twin?	0.510304
45	b2_9c	j6.a) Please specify 'Other'.	c1_a_11o	i16.a) Please specify.	0.589621
46	b2_4a	j7) Can you specify the estimated amount you p...	child_hfid	m2) Please enter the registration number alloc...	0.558018
47	b2_5a	j8) Can you specify the estimated amount you p...	e4_1	l7) Did the provider use the device that is re...	0.542791
48	b2_6a	j9) Can you specify the estimated amount you p...	f2_1	r1) What type of laboratory tests were ordered...	0.531987
49	b2_7	j10) Can you specify the estimated amount of m...	b1_2b	i7) You mentioned that you sought care / treat...	0.530633
50	b2_8	j11) Do you intend to buy some medicines outsi...	a3_a_10	c1) What is the main reason for you to bring t...	0.531458
51	m3_1b	j19) Who is the head of your household?	m3_5	k20) What type of stove do you use for cooking...	0.568328

f3.removedQuestions(f1)

	name	label	name__of__closest__lbl	closest__lbl	matc
0	start_geopoint		fname	Facility name	0.520
1	screening_id	Screening ID	a1_a_4a	b1.b) If QR code scanning is not possible, ple...	0.522
2	district1	a1) Please select the current district	b1_4	a1) Please select the current district	1.000
3	dobk	b1) Do you know the date of birth of the child?	k2_3	d4) How did you feel with the fact that the pr...	0.582
4	screening_start		fname	Facility name	0.520
...	...	...	...	...	...
302	report_end_dec		fname	Facility name	0.520
303	report_end_disp		fname	Facility name	0.520
304	c3_6	s7) What disability is recorded?	fname	Facility name	0.539
305	c3_6o	s7.a) Please specify	b1_8o	j2.a) Please specify.	0.648
306	varia	t1) Any other thing you would like to mention ...	k2_1	d1) Did the provider use a tablet like this on...	0.564

Test for choices

```
#choices_df["list_name"].dropna().unique()
```