

Wait! There is more ... What about Privacy ?

Due to privacy concerns, **you will not see all the identifying information** in the table, but you should have sufficient information to make decisions.

The upcoming pages will give you an understanding of how the data is disclosed on a need-to-know basis.

Checkmarks: Identical Values ✓

Identical values are shown as checkmarks.

Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
1	1234567891 ✗	...	BRIAN +	TIPTON	∞	09/09/1960	F	W
	1234561291	<div>2-5</div>	BRIANNA	TIPTON	∞	09/09/1960	F	W



Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
1	*****@* ✗	...	***** +	✓	∞	✓	✓	✓
	*****&* ✗	<div>2-5</div>	*****&	✓	∞	✓	✓	✓

Stars Used in Similar IDs

When two items are similar, **stars** (they look like this ***) are used for characters that are the **same**.

@@@ and &&& show the characters that are **different**.

Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
1	1234567891	...	BRIAN	TIPTON	∞	09/09/1960	F	W
	1234561291	<div>2-5</div>	BRIANNA	TIPTON	∞	09/09/1960	F	W



Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
1	*****@@*	...	*****	✓	∞	✓	✓	✓
	*****&&*	<div>2-5</div>	*****&&	✓	∞	✓	✓	✓

*** When the Matched Value is Missing ()

When one of the values in a pair is missing, the other value is not useful.

Thus, the matched value with missing is represented by ***

Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
7	0000018335	...	PATSY	CALLAHAN	...	11/13/1948	F	B
	?	...	PATSY	CALLAHAN	...	?	F	B



Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
7	*****	...	✓	✓	...	**/**/****	✓	✓
	?	...	✓	✓	...	?	✓	✓

Different Items



When two items are very different, they are shown as @@@ and &&&

Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
13	6556368585 DIFF	①	WILL DIFF	GREENE	...	07/03/1950	M	B DIFF
	1092091430	①	DAVE	GREENE	...	07/03/1950	M	W



Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race
13	@@@@@@@@@@@ DIFF	①	@@@@ DIFF	✓	...	✓	✓	@ DIFF
	&&&&&&&&&&&&	①	&&&&	✓	...	✓	✓	&

Swaps

When columns have swapped values, the swapped parts are shown by &&& and @@@

Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
5	0000006947	①	BRYANT	MADLINE	①	02/05/1962	F	W
	0000006947	2-5	MADLINE	BRYANT	...	05/02/1962	F	W



Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
5	✓	①	&&&&&	@@@@@@@@	①	@@/@@/****	✓	✓
	✓	2-5	@@@@@@@@	&&&&&	...	&&/@@/****	✓	✓

Understand the Symbols?

Take a moment to look at the next slide carefully and understand what the symbols and icons mean for different values.

Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
1	8000002767 ✗	①	JUDE	WILLIAM	①	09/09/1906 ↔	M	W
	8000003567	①	JUDE	WILLIAM JR	①	09/09/1960	M	DIFF B
2	0000006947	①	BRYANT	MADELINE	①	05/02/1962	F	W
	0000006947	25	MADELINE	BRYANT	...	05/02/1962	F	W
3	9000018540 DIFF	...	SALLY	BYRD	...	07/04/1960 ✗	F DIFF	W
	6000008928	∞	JOHN	BYRD	...	04/07/1960	M	?

Pair	ID	FFreq	First name	Last name	LFreq	DoB (M/D/Y)	Sex	Race
1	*****@* ✗	①	✓	*****	①	**/**/**@ ↔	✓	@
	*****&* ✗	①	✓	*****&	①	**/**/**&	✓	DIFF &
2	✓	①	&&&&&	@@@@@@@@	①	✓	✓	✓
	✓	2-5	@@@@@@@@	&&&&&	...	✓	✓	✓
3	@@@@@@@@@@ DIFF	...	@@@@@	✓	...	@@/&/***	@	*
	&&&&&&&&	∞	&&&	✓	...	&&/@@/***	& DIFF	?



Encryption Mode

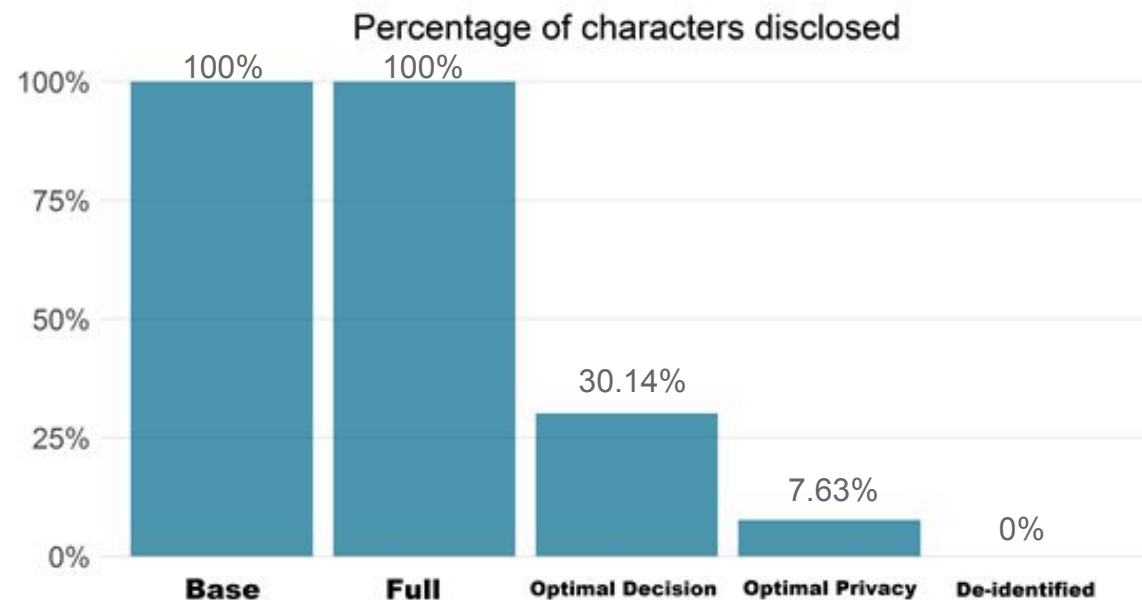
Pair	ID	FFreq	First name	Last name	LFreq	DoB(M/D/Y)	Sex	Race	Choice Panel
1	✓	...	PywgJCokKCuiLg== DIFF	✓	∞	✓	F	✓	
	✓	2-5	PywgJCo1ICiLg==	✓	∞	✓	F	✓	
2	✓	①	✓	✓	①	WFXDXFIHVfVfXw== DIFF	F	✓	
	✓	①	✓	✓	2-5	WFXDXFIHVfVcXA==	F	✓	

Encryption mode only have **same/different** icon.

When information is identical, a pair of check marks will be displayed.

When information is **NOT identical**, **encrypted information** will be displayed.

Conclusion



As you can see, the five modes you just did disclose **different percentage of characters**. The percentage of characters disclosed will not only affect **privacy risk** in each mode, but also your **accuracy** in record linkage.

The goal of our research is to find the **balance** between privacy and accuracy in record linkage. **Thank you very much for participating this user study.**