

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

Due to privacy concerns, **you are not allowed to see all the identifying information during the user study**

We have attempted to convey sufficient information for the record linkage task

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 represented by checkmarks

|   |            |     |         |        |          |            |   |   |
|---|------------|-----|---------|--------|----------|------------|---|---|
| 1 | 1234567891 | ... | BRIAN   | TIPTON | $\infty$ | 09/09/1960 | F | W |
|   | 1234561291 | 25  | BRIANNA | TIPTON | $\infty$ | 09/09/1960 | F | W |
|   |            |     |         |        |          |            |   |   |
| 1 | *****@@**  | ... | *****   | ✓      | $\infty$ | ✓          | ✓ | ✓ |
|   | *****&&**  | 25  | *****&& | ✓      | $\infty$ | ✓          | ✓ | ✓ |

# Stars (\*) are used for Similar Values

When two items are similar, the characters that are the **same are represented by stars (\*)**. Only the characters that are different are revealed.

|   |            |     |         |        |   |            |   |   |
|---|------------|-----|---------|--------|---|------------|---|---|
| 1 | 1234567891 | ... | BRIAN   | TIPTON | ∞ | 09/09/1960 | F | W |
|   | 1234561291 | 2 5 | BRIANNA | TIPTON | ∞ | 09/09/1960 | F | W |



|   |          |     |         |   |   |   |   |   |
|---|----------|-----|---------|---|---|---|---|---|
| 1 | *****@** | ... | *****   | ✓ | ∞ | ✓ | ✓ | ✓ |
|   | *****&&  | 2 5 | *****&& | ✓ | ∞ | ✓ | ✓ | ✓ |

# @ and & for different characters

When two items have one of insert/replace/transpose operations, the differentiating characters are represented by @ and &s

|   |            |     |         |        |   |            |   |   |
|---|------------|-----|---------|--------|---|------------|---|---|
| 1   | 1234567891 | ... | BRIAN   | TIPTON | ∞ | 09/09/1960 | F | W |
|   | 1234561291 | 2 5 | BRIANNA | TIPTON | ∞ | 09/09/1960 | F | W |
|  |            |     |         |        |   |            |   |   |
| 1   | *****@**   | ... | *****   | ✓      | ∞ | ✓          | ✓ | ✓ |
|   | *****&*    | 2 5 | *****&& | ✓      | ∞ | ✓          | ✓ | ✓ |

# @@@ and &&& when a value is missing

When one of the values in a pair is missing, the other one is represented by either @@@ or &&& depending on the row in which the value is present

|   |            |     |       |          |     |            |   |   |
|---|------------|-----|-------|----------|-----|------------|---|---|
| 7 | 0000018335 | ... | PATSY | CALLAHAN | ... | 11/13/1948 | F | B |
|   | ?          | ... | PATSY | CALLAHAN | ... | ?          | F | B |



|   |            |     |   |   |     |            |   |   |
|---|------------|-----|---|---|-----|------------|---|---|
| 7 | @@@@@@@@@@ | ... | ✓ | ✓ | ... | @@/@@/@@@@ | ✓ | ✓ |
|   | ?          | ... | ✓ | ✓ | ... | ?          | ✓ | ✓ |

# Different items

aaaaaaaaaa  
DIFF  
aaaaaaaaaa

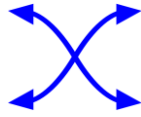
When two items are very different, they are left fully revealed. However, when ID and race are very different, they are represented by @@@ and &&&

|    |                    |   |              |        |     |            |   |           |
|----|--------------------|---|--------------|--------|-----|------------|---|-----------|
| 13 | 6556368585<br>DIFF | ① | WILL<br>DIFF | GREENE | ... | 07/03/1950 | M | B<br>DIFF |
|    | 1092091430         | ① | DAVE         | GREENE | ... | 07/03/1950 | M | W         |



|    |                    |   |              |   |     |   |   |           |
|----|--------------------|---|--------------|---|-----|---|---|-----------|
| 13 | aaaaaaaaaa<br>DIFF | ① | aaaa<br>DIFF | ✓ | ... | ✓ | ✓ | @<br>DIFF |
|    | aaaaaaaaaa         | ① | aaaa         | ✓ | ... | ✓ | ✓ | &         |

# Swaps



When there are swaps, the swapped values are represented by &&& and @@@@

|   |            |     |          |  |     |            |   |   |
|---|------------|-----|----------|--|-----|------------|---|---|
| 5 | 0000006947 | ①   | BRYANT   |  | ①   | 02/05/1962 | F | W |
|   | 0000006947 | 2 5 | MADELINE |  | ... | 05/02/1962 | F | W |



|   |   |     |         |  |     |            |   |   |
|---|---|-----|---------|--|-----|------------|---|---|
| 5 | ✓ | ①   | &&&&&   |  | ①   | @@/@@/**** | ✓ | ✓ |
|   | ✓ | 2 5 | &&&&&&& |  | ... | &&/@@/**** | ✓ | ✓ |

# Understand the mapping?

Take a moment to look at the next slide carefully and understand how the data is getting mapped.



| 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   | B    |
| 2    | 0000006947 | ①     | BRYANT     | MADELINE   | ①     | 05/02/1962  | F   | W    |
|      | 0000006947 | 25    | MADELINE   | BRYANT     | ...   | 05/02/1962  | F   | W    |
| 3    | 9000018540 | ...   | SALLY      | BYRD       | ...   | 07/04/1960  | F   | 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     | **/**/**@  | ✓    | @    |
|      | *****✖       |       |            | *****+    |       | **/**/**↔  |      | DIFF |
|      | *****&*      | ①     | ✓          | *****&&   | ①     | **/**/**&& | ✓    | &    |
| 2    | ✓            | ①     | &&&&&↔     | @&&&&&&   | ①     | ✓          | ✓    |      |
|      | ✓            | 25    | &&&&&&&↔   | @&&&&&    | ...   | ✓          | ✓    |      |
| 3    | @&&&&&&&&&   | ...   | @&&&&      | ✓         | ...   | @@/&&/**** | @    | @    |
|      | DIFF         |       | DIFF       |           |       | ✖          | DIFF |      |
|      | &&&&&&&&&&&& | ∞     | &&&&       | ✓         | ...   | &&/@@/**** | &    | ?    |



Try doing a few practice problems again as you would see them in the real study