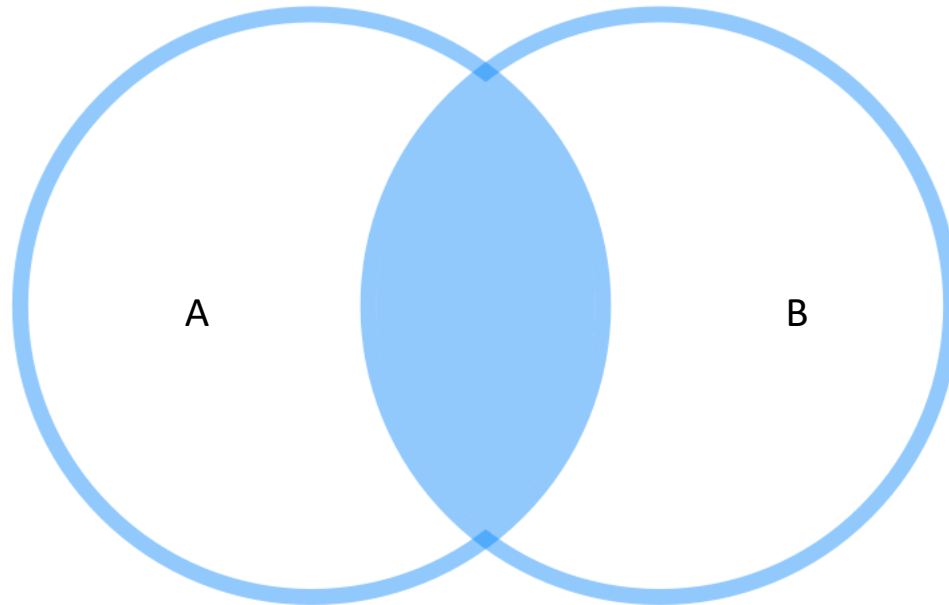# Overview of advanced techniques for merging datasets

What to do when IDs have different names
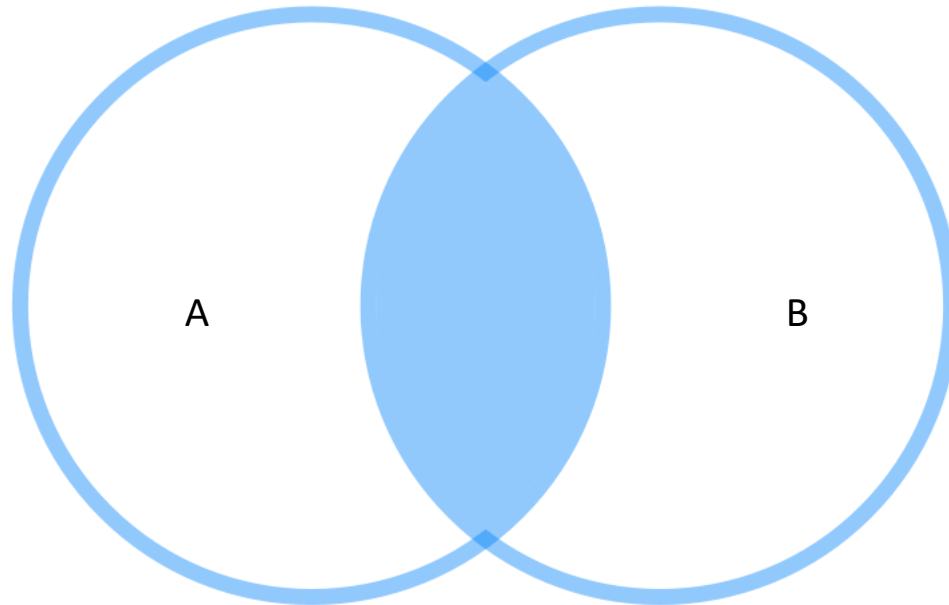


```
merge(A, B, by.x="ID", by.y="CustID", all=FALSE)
```

1 Common identifiers in A

2 Common identifiers in B

Merging by multiple IDs

merge(A, B, by=c("ID", "TransDate"), all=FALSE**)**

Common identifiers in A and B

Illustration of an inner join merged by multiple IDs (1/2)

A (`myData`)

Customer	TransDate	Quantity	PurchAmount	Cost
149332	2005-11-15	1	199.95	107.00
172951	2008-08-29	1	199.95	108.00
120621	2007-10-19	1	99.95	49.00
149236	2005-11-14	1	39.95	18.95
149236	2007-12-06	1	79.95	35.00
…	…	…	…	…

B (`CustData`)

Customer	Gender	Birthdate	ZIP	JoinDate
80365	f	1991-08-26	US-06332	2009-09-15
149332	m	1998-07-07	US-08873	2005-11-05
84374	m	1977-07-10	US-06400	1988-08-10
149236	f	1955-08-15	US-92646	1971-02-16
100001	m	1974-05-08	US-02332	1992-02-21
…	…	…	…	…

```
merge(myData, CustData, by.x =c("Customer", "TransDate"),
        by.y=c("Customer", "JoinDate"), all=FALSE)
```

Illustration of an inner join merged by multiple IDs (2/2)

A (`myData`)

Customer	TransDate	Quantity	PurchAmount	Cost
149332	2005-11-15	1	199.95	107.00
172951	2008-08-29	1	199.95	108.00
120621	2007-10-19	1	99.95	49.00
149236	2005-11-14	1	39.95	18.95
149236	2007-12-06	1	79.95	35.00
…	…	…	…	…

B (`CustData`)

Customer	Gender	Birthdate	ZIP	JoinDate
80365	f	1991-08-26	US-06332	2009-09-15
149332	m	1998-07-07	US-08873	2005-11-05
84374	m	1977-07-10	US-06400	1988-08-10
149236	f	1955-08-15	US-92646	1971-02-16
100001	m	1974-05-08	US-02332	1992-02-21
…	…	…	…	…

Match entries of table A and Table B if there is a matching value for customer ID and TransDate/JoinDate in both tables.

Customer	TransDate	Quantity	PurchAmount	Cost	Gender	Birthdate	ZIP	JoinDate
170823	2008-04-04	2	109.90	45.20	m	1998-03-21	US-99515	2008-04-04
103853	2006-06-07	1	159.95	81.11	f	1990-08-10	US-94114	2006-06-07
102521	2005-09-14	1	159.95	120.00	m	1996-07-19	US-94803	2005-09-14
145017	2005-01-31	1	299.95	215.00	m	1987-11-14	US-29926	2005-01-31
145017	2005-01-31	1	0.00	0.00	m	1987-11-14	US-29926	2005-01-31
…	…	…	…	…	…	…	…	…