```
> df1 = data.frame(CustId = c(1:6), Product = c(rep("TV", 3), rep("Radio", 3)
))
> df2 = data.frame(CustId = c(2, 4, 6), State = c(rep("Texas", 2), rep("NYC",
1)))
>
> df1 #left table
  CustId Product
1      1      TV
2      2      TV
3      3      TV
4      4   Radio
5      5   Radio
6      6   Radio
> df2 #right table
  CustId State
1      2 Texas
2      4 Texas
3      6   NYC
>
> #a   Return only the rows in which the left table have match.
> # inner join
> dfinner <- merge(x=df1,y=df2)
> dfinner
  CustId Product State
1      2      TV Texas
2      4   Radio Texas
3      6   Radio   NYC
> #b   Returns all rows from both tables, join records from the left which ha
ve matching keys
> #in the right table.outer or full join.
>
> dfouter<-merge(x=df1,y=df2,by="CustId",all = TRUE)
> dfouter
  CustId Product State
1      1      TV  <NA>
2      2      TV Texas
3      3      TV  <NA>
4      4   Radio Texas
5      5   Radio  <NA>
6      6   Radio   NYC
> #c  Return all rows from the left table, and any rows with matching keys fr
om the right
> #table. LEFT JOIN.
>
> dfleft<-merge(x=df1,y=df2,by="CustId",all.x = TRUE)
> dfleft
  CustId Product State
1      1      TV  <NA>
2      2      TV Texas
3      3      TV  <NA>
4      4   Radio Texas
5      5   Radio  <NA>
6      6   Radio   NYC
> #Return all rows from the right table, and any rows with matching keys from
the left
> #table.RIGHT JOIN
> dfright<-merge(x=df1,y=df2,by="CustId",all.y = TRUE)
> dfright
  CustId Product State
1      2      TV Texas
2      4   Radio Texas
3      6   Radio   NYC
>
```

```
> # . Return a long format of the datasets without matching key.
> library(tidyr)
> gather(df1)
       key value
1   CustId     1
2   CustId     2
3   CustId     3
4   CustId     4
5   CustId     5
6   CustId     6
7  Product    TV
8  Product    TV
9  Product    TV
10 Product Radio
11 Product Radio
12 Product Radio
Warning message:
attributes are not identical across measure variables;
they will be dropped
> gather(df2)
     key value
1 CustId     2
2 CustId     4
3 CustId     6
4  State Texas
5  State Texas
6  State   NYC
Warning message:
attributes are not identical across measure variables;
they will be dropped
```