These methods require sorting: Interleaving, Match merge

1. **Interleaving:**

DATA One;  
INPUT ID age name $;  
DATALINES;

1001 21 Jone

1002 20 Peter

1003 22 Mary

1004 19 Joe

1005 21 Mark

1006 23 Sue

1007 19 Harry

1008 18 Tom

1009 22 Andy

1020 21 Larry  
;  
RUN;  
  
DATA Two;  
INPUT ID gender $ department $;  
DATALINES;

1006 F Econ

1007 M Econ

1008 M Math

1009 M Stat

1010 M Stat

1001 M Econ

1002 M Stat

1003 F Econ

1004 F Econ

1005 M Fina  
;  
RUN;  
  
PROC SORT data=One;  
 BY ID; RUN;  
PROC SORT data=Two;  
 BY Id; RUN;  
DATA Interleaving;  
 SET One Two;  
 BY ID; RUN;  
PROC PRINT data=Interleaving; RUN;

RESULT:

| **Obs** | **ID** | **age** | **name** | **gender** | **department** |
| --- | --- | --- | --- | --- | --- |
| **1** | 1001 | 21 | Jone |  |  |
| **2** | 1001 | . |  | M | Econ |
| **3** | 1002 | 20 | Peter |  |  |
| **4** | 1002 | . |  | M | Stat |
| **5** | 1003 | 22 | Mary |  |  |
| **6** | 1003 | . |  | F | Econ |
| **7** | 1004 | 19 | Joe |  |  |
| **8** | 1004 | . |  | F | Econ |
| **9** | 1005 | 21 | Mark |  |  |
| **10** | 1005 | . |  | M | Fina |
| **11** | 1006 | 23 | Sue |  |  |
| **12** | 1006 | . |  | F | Econ |
| **13** | 1007 | 19 | Harry |  |  |
| **14** | 1007 | . |  | M | Econ |
| **15** | 1008 | 18 | Tom |  |  |
| **16** | 1008 | . |  | M | Math |
| **17** | 1009 | 22 | Andy |  |  |
| **18** | 1009 | . |  | M | Stat |
| **19** | 1010 | . |  | M | Stat |
| **20** | 1020 | 21 | Larry |  |  |

**b) Match Merge:**

DATA One;

INPUT ID age name $;

DATALINES;

1001 21 Jone

1002 20 Peter

1003 22 Mary

1004 19 Joe

1005 21 Mark

1006 23 Sue

1007 19 Harry

1008 18 Tom

1009 22 Andy

1020 21 Larry

;

RUN;

PROC SORT data=One;

BY ID; RUN;

DATA Two;

INPUT ID gender $ department $;

DATALINES;

1006 F Econ

1007 M Econ

1008 M Math

1009 M Stat

1010 M Stat

1001 M Econ

1002 M Stat

1003 F Econ

1004 F Econ

1005 M Fina

;

RUN;

PROC SORT data=Two;

BY ID; RUN;

DATA Match\_merge;

MERGE One Two;

BY ID;

RUN;

PROC PRINT data=Match\_merge;

RUN;

RESULT:

| **Obs** | **ID** | **age** | **name** | **gender** | **department** |
| --- | --- | --- | --- | --- | --- |
| **1** | 1001 | 21 | Jone | M | Econ |
| **2** | 1002 | 20 | Peter | M | Stat |
| **3** | 1003 | 22 | Mary | F | Econ |
| **4** | 1004 | 19 | Joe | F | Econ |
| **5** | 1005 | 21 | Mark | M | Fina |
| **6** | 1006 | 23 | Sue | F | Econ |
| **7** | 1007 | 19 | Harry | M | Econ |
| **8** | 1008 | 18 | Tom | M | Math |
| **9** | 1009 | 22 | Andy | M | Stat |
| **10** | 1010 | . |  | M | Stat |
| **11** | 1020 | 21 | Larry |  |  |