

(3) DATA MANIPULATION

```
*** PROC FORMAT;
```

```
  * Proc Format (Inner Lookup);
```

```
    data stars_list;
      infile '\\CRMP\SAS3\Data231\WC-Boca\DC\SAS\Sample
Data\import\stars.txt' dlm='09'x truncover end=last;
      retain label 1 type 'J' fmtname '$stars_list';
      input start :$3.;
      if last then do;
        output;
        hlo='O';
        label=0;
        output;
      end;
      else output;
    run;
    proc format cntlin=stars_list cntlout=zzz;
    data stars_lookup;
      set teams;
      star_status=input(name,$stars_list.);
      if star_status=1;
```

```
  * Proc Format (Inner Merge);
```

```
    data stars_rank;
      infile '\\CRMP\SAS3\Data231\WC-Boca\DC\SAS\Sample
Data\import\rank.txt' dlm='09'x truncover end=last;
      retain type 'N' fmtname 'stars_rank';
      input start :mmddyy8. label $7.;
      if last then do;
        output;
        hlo='O';
        label='none';
        output;
      end;
      else output;
    proc format cntlin=stars_rank;
    data stars_lookup_ranked;
      set stars_lookup;
      star_rank=put(draft_date,stars_rank.);
```

```
*** DATA MERGE;
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```
  * Data Merge (Cartesian Product);
```

```
    options compress=no;
    data <dataset>;
      set <dataset_many_or_one1>;
      do i=1 to xnobs;
        set <dataset_many_or_one2> point=i nobs=xnobs;
        output;
      end;
    options compress=yes;
```

```
  * Data Merge (Inner Join);
```

```
    data <dataset>;
      merge <dataset_many_or_one> (in=in1) <dataset_one> (in=in2);
      by <key>;
      if in1 and in2;
```

```

* Data Merge (Left/Right Join);

    data <dataset>;
        merge <dataset_many_or_one> (in=in1) <dataset_one> (in=in2);
        by <key>;
        if <in1 or in2>;

* Data Merge (Outer Join);

    data <dataset>;
        merge <dataset_many_or_one> <dataset_one>;
        by <key>;

*** PROC TRANSPOSE;

    proc sort data=teams out=trans_teams;
        by team position;

* Proc Transpose (Narrow to Wide);

    proc transpose data=trans_teams out=trans_pd (drop=_name_)
prefix=position_;
        id position;
        var draft_date;
        by team;

* Proc Tranpose (Wide to Narrow);

    proc transpose data=trans_pd out=trans_pd_trans
(rename=(coll=draft_date)) name=position;
        var position_p1-position_p8;
        by team;

* Proc Transpose (2x2 Flip 1x1);

    proc transpose data=trans_teams out=trans_pb name=year
prefix=bposition_;
        id position;
        var b2008-b2012;
        by team;
    proc transpose data=trans_teams out=trans_pr name=year
prefix=rposition_;
        id position;
        var r2008-r2012;
        by team;
    data trans_pbr;
        merge trans_pb trans_pr;
        year=compress(year, 'BR');

*** DATA TRANSPOSE;

* Data Transpose (Narrow to Wide);

    data trans_pd_data (keep=team position_p1-position_p8);
        set trans_teams;
        by team;
        array positions{*} position_p1-position_p8;
        retain positions;
        if first.team then call missing(of positions{*});
        do i=1 to dim(positions);
            if i=compress(position, 'P') then positions{i}=draft_date;
        end;
        if last.team;

```

```
* Data Tranpose (Wide to Narrow);
```

```
data trans_pd_data_trans_data (keep=team position draft_date);
set trans_pd_data;
array positions{*} position_p;;
do i=1 to dim(positions);
    position=vname(positions{i});
    draft_date=positions{i};
output;
end;
```

```
* Data Transpose (2x2 Flip 1x1);
```

```
data trans_pbr_data;
set trans_teams;
array years{*} b2008-b2012 r2008-r2012;
do i=1 to dim(years);
    year=compress(vname(years{i}),'BR');
    type=substr(vname(years{i}),1,1);
    stat=years{i};
output;
end;
proc sort data=trans_pbr_data out=trans_pbr_data;
by team type year position;
data trans_pbr_data (keep=team type year position_p1-position_p8);
set trans_pbr_data;
by team type year;
array positions{*} position_p1-position_p8;
retain positions;
if first.year then call missing(of positions{*});
do i=1 to dim(positions);
    if i=compress(position,'P') then positions{i}=stat;
end;
if last.year;
data trans_pbr_data (drop=type);
merge
    trans_pbr_data (rename=(
        %macro bpositions;
            %do i=1 %to 8;
                position_p&i=bposition_p&i
            %end;
        %mend;
        %bpositions
    ) where=(type='B'))
    trans_pbr_data (rename=(
        %macro rpositions;
            %do i=1 %to 8;
                position_p&i=rposition_p&i
            %end;
        %mend;
        %rpositions
    ) where=(type='R'));
by team year;
```