```
title 'Class Dataset';
footnote;

proc print data=sashelp.class;
run;
```

Grouped via DataStep

Obs	Name	Sex	Age	Height	Weight	Gender	AgeGrp	Height Grp	Weight Grp
1	Joyce	F	11	51.3	50.5	Female	PreTeen	Shortest	Lightest
2	Thomas	M	11	57.5	85.0	Male	PreTeen	Shorter	Lighter
3	Louise	F	12	56.3	77.0	Female	PreTeen	Shorter	Lighter
4	James	M	12	57.3	83.0	Male	PreTeen	Shorter	Lighter
5	John	M	12	59.0	99.5	Male	PreTeen	Shorter	Heavier
6	Jane	F	12	59.8	84.5	Female	PreTeen	Shorter	Lighter
7	Robert	M	12	64.8	128.0	Male	PreTeen	Taller	Heaviest
8	Alice	F	13	56.5	84.0	Female	JustTeen	Shorter	Lighter
9	Jeffrey	M	13	62.5	84.0	Male	JustTeen	Taller	Lighter
10	Barbara	F	13	65.3	98.0	Female	JustTeen	Tallest	Heavier
11	Carol	F	14	62.8	102.5	Female	RealTeen	Taller	Heavier
12	Henry	M	14	63.5	102.5	Male	RealTeen	Taller	Heavier
13	Judy	F	14	64.3	90.0	Female	RealTeen	Taller	Heavier
14	Alfred	M	14	69.0	112.5	Male	RealTeen	Tallest	Heavier
15	Janet	F	15	62.5	112.5	Female	RealTeen	Taller	Heavier
16	Mary	F	15	66.5	112.0	Female	RealTeen	Tallest	Heavier
17	William	M	15	66.5	112.0	Male	RealTeen	Tallest	Heavier
18	Ronald	M	15	67.0	133.0	Male	RealTeen	Tallest	Heaviest
19	Philip	M	16	72.0	150.0	Male	RealTeen	Tallest	Heaviest

```
data class2;
 set sashelp.class;

 if Sex='F' then Gender='Female';
   else if sex='M' then Gender='Male';

 if age < 13 then AgeGrp=' PreTeen';
   else if age = 13 then AgeGrp='JustTeen';
     else if age > 13 then AgeGrp='RealTeen';

 if 50 le height le 55 then HeightGrp='Shortest';
   else if height > 55 and height < 60 then HeightGrp='Shorter';
     else if height >= 60 and height < 65 then HeightGrp='Taller';
       else if height >=65 then HeightGrp='Tallest';

if weight le 55 then WeightGrp='Lightest';
   else if weight > 55 and weight < 90 then WeightGrp='Lighter';
     else if weight >= 90 and weight < 125 then
WeightGrp='Heavier';
       else if weight >=125 then WeightGrp='Heaviest';
run;
```

```
title 'Grouped via DataStep';

proc print data=class2;
run;

proc tabulate data=class2 order=data;
class agegrp heightgrp weightgrp;
table agegrp,heightgrp*weightgrp*n*f=9.0;
run;
```

Grouped via DataStep

Obs	Name	Sex	Age	Height	Weight	Gender	AgeGrp	Height Grp	Weight Grp
1	Joyce	F	11	51.3	50.5	Female	PreTeen	Shortest	Lightest
2	Thomas	M	11	57.5	85.0	Male	PreTeen	Shorter	Lighter
3	Louise	F	12	56.3	77.0	Female	PreTeen	Shorter	Lighter
4	James	M	12	57.3	83.0	Male	PreTeen	Shorter	Lighter
5	John	M	12	59.0	99.5	Male	PreTeen	Shorter	Heavier
6	Jane	F	12	59.8	84.5	Female	PreTeen	Shorter	Lighter
7	Robert	M	12	64.8	128.0	Male	PreTeen	Taller	Heaviest
8	Alice	F	13	56.5	84.0	Female	JustTeen	Shorter	Lighter
9	Jeffrey	M	13	62.5	84.0	Male	JustTeen	Taller	Lighter
10	Barbara	F	13	65.3	98.0	Female	JustTeen	Tallest	Heavier
11	Carol	F	14	62.8	102.5	Female	RealTeen	Taller	Heavier
12	Henry	M	14	63.5	102.5	Male	RealTeen	Taller	Heavier
13	Judy	F	14	64.3	90.0	Female	RealTeen	Taller	Heavier
14	Alfred	M	14	69.0	112.5	Male	RealTeen	Tallest	Heavier
15	Janet	F	15	62.5	112.5	Female	RealTeen	Taller	Heavier
16	Mary	F	15	66.5	112.0	Female	RealTeen	Tallest	Heavier
17	William	M	15	66.5	112.0	Male	RealTeen	Tallest	Heavier
18	Ronald	M	15	67.0	133.0	Male	RealTeen	Tallest	Heaviest
19	Philip	M	16	72.0	150.0	Male	RealTeen	Tallest	Heaviest

Grouped via DataStep

	HeightGrp							
	Shortest	Shorter		Taller		Tallest		
	WeightGrp	WeightGrp		WeightGrp		WeightGrp		
	Lightest	Lighter	Heavier	Lighter	Heavier	Heaviest	Heavier	Heaviest
	N	N	N	N	N	N	N	N
AgeGrp								
PreTeen	1	4	1	.	.	1	.	.
JustTeen	.	1	.	1	.	.	1	.
RealTeen	.	.	.	.	4	.	3	2

```
proc format;
 value Age
      low-12=' PreTeen'
          13='JustTeen'
       14-high='RealTeen';

 value Height
      50-55      ='Shortest'
      55.1-59.9='Shorter'
      60-64.9   ='Taller'
      65-high    ='Tallest';

 value Weight
      low-55     ='Lightest'
      55.1-89.9='Lighter'
      90-124.9 ='Heavier'
      125-high   ='Heaviest';

 value $Sex
      'F'='Female'
      'M'='Male';                    run;
```

```
title 'Grouped via Format';

proc print data=sashelp.class;
  format age Age. height Height. weight Weight. sex $sex.;
run;

proc sort data=sashelp.class;
  by age height weight;
run;

proc tabulate data=sashelp.class order=data;
  format age Age. height Height. weight Weight.;
  class age height weight;
  table age,height*weight*n*f=9.0;
run;
```

Grouped via Format

Obs	Name	Sex	Age	Height	Weight
1	Joyce	Female	PreTeen	Shortest	Lightest
2	Thomas	Male	PreTeen	Shorter	Lighter
3	Louise	Female	PreTeen	Shorter	Lighter
4	James	Male	PreTeen	Shorter	Lighter
5	John	Male	PreTeen	Shorter	Heavier
6	Jane	Female	PreTeen	Shorter	Lighter
7	Robert	Male	PreTeen	Taller	Heaviest
8	Alice	Female	JustTeen	Shorter	Lighter
9	Jeffrey	Male	JustTeen	Taller	Lighter
10	Barbara	Female	JustTeen	Tallest	Heavier
11	Carol	Female	RealTeen	Taller	Heavier
12	Henry	Male	RealTeen	Taller	Heavier
13	Judy	Female	RealTeen	Taller	Heavier
14	Alfred	Male	RealTeen	Tallest	Heavier
15	Janet	Female	RealTeen	Taller	Heavier
16	Mary	Female	RealTeen	Tallest	Heavier
17	William	Male	RealTeen	Tallest	Heavier
18	Ronald	Male	RealTeen	Tallest	Heaviest
19	Philip	Male	RealTeen	Tallest	Heaviest

Grouped via Format

	Height							
	Shortest	Shorter	Taller	Tallest				
	Weight	Weight	Weight	Weight				
	Lightest	Lighter	Heavier	Lighter	Heavier	Heaviest	Heavier	Heaviest
	N	N	N	N	N	N	N	N
Age								
PreTeen	1	4	1	.	.	1	.	.
JustTeen	.	1	.	1	.	.	1	.
RealTeen	.	.	.	.	4	.	3	2

```
data groups2;
  set sashelp.class;

  Gender=put(sex,$sex.);
  AgeGrp=put(age,Age.);
  HeightGrp=put(height,Height.);
  WeightGrp=put(weight,Weight.);

run;

title 'Grouped via DataStep and Format';

proc print data=groups2;
run;
```

Grouped via DataStep and Format

Obs	Name	Sex	Age	Height	Weight	Gender	AgeGrp	Height Grp	Weight Grp
1	Joyce	F	11	51.3	50.5	Female	PreTeen	Shortest	Lightest
2	Thomas	M	11	57.5	85.0	Male	PreTeen	Shorter	Lighter
3	Louise	F	12	56.3	77.0	Female	PreTeen	Shorter	Lighter
4	James	M	12	57.3	83.0	Male	PreTeen	Shorter	Lighter
5	John	M	12	59.0	99.5	Male	PreTeen	Shorter	Heavier
6	Jane	F	12	59.8	84.5	Female	PreTeen	Shorter	Lighter
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13	Judy	F	14	64.3	90.0	Female	RealTeen	Taller	Heavier
14	Alfred	M	14	69.0	112.5	Male	RealTeen	Tallest	Heavier
15	Janet	F	15	62.5	112.5	Female	RealTeen	Taller	Heavier
16	Mary	F	15	66.5	112.0	Female	RealTeen	Tallest	Heavier
17	William	M	15	66.5	112.0	Male	RealTeen	Tallest	Heavier
18	Ronald	M	15	67.0	133.0	Male	RealTeen	Tallest	Heaviest
19	Philip	M	16	72.0	150.0	Male	RealTeen	Tallest	Heaviest