CURS 5

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proc FREQ

- Tabele de frecventa/contingenta
- Teste de asociere
- Forma generala:

```
proc freq <data=SAS-data-set>;
run;
```

- Implicit:
  - Frecvente (numar de obs cu valoarea aceea)
  - Procente (nr de obs de o valoare/nr total de obs)
  - Frecvente cumulate (suma fr. pana la linia curenta)
  - Procente cumulate (suma pr. pana la linia curenta)

date

```
data SummerSchool;
   input Gender $ Internship $ Enrollment $
Count @@;
   datalines;
  boys  yes yes 35   boys  yes no 29
  boys   no yes 14   boys   no no 27
  girls yes yes 32   girls yes no 10
  girls  no yes 53   girls  no no 23
;
```

citeste mai multe observatii de pe aceeasi linie

exemplu

```
proc freq;
run;

proc freq data=SummerSchool;
run;
```

alegerea variabilelor - TABLES

- Se potriveste pentru variabile calitative…
- Forma generala

```
TABLES variabile;
```

- `variabile` – lista de variable de inclus;
- Rezultatele vor aparea in ordinea din lista TABLES;

exemplu

```
proc freq data=SummerSchool;
     tables gender;
run;

proc freq data=SummerSchool;
     tables gender internship /nocum;
run;
```

- Optiunea NOCUM – nu mai afiseaza valorile cumulate

mai departe..

- pentru a incrucisa datele…
- forma generala:

`TABLES var1*var2<*…*varn>;`

- unde
  - `var1` – specifica variabila pe LINIE
  - `var2` – specifica variabila pe COLOANA
  - `var3..varn` – variabile pt. tabele multiple
- proc freq va afisa aceleasi marimi implicite pentru fiecare categorie din tabel (fr, %, fr. si % cumulate)

exemplu

```
proc freq data=SummerSchool;
     tables gender*Internship;
run;


proc freq data=SummerSchool;
     tables Internship*enrollment;
run;
```

rezultat

The FREQ Procedure

Table of Internship by Enrollment				
		Enrollment		
		no	yes	Total
Internship				
no	Frequency	2	2	4
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
yes	Frequency	2	2	4
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
Total	Frequency	4	4	8
	Percent	50.00	50.00	100.00

in continuare

```
proc freq data=SummerSchool;
   tables gender*internship*enrollment;
run;
```

The FREQ Procedure

Table 1 of Enrollment by Gender
Controlling for Internship=no

		Gender		
		boys	girls	Total
Enrollment				
no	Frequency	1	1	2
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
yes	Frequency	1	1	2
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
Total	Frequency	2	2	4
	Percent	50.00	50.00	100.00

Table 2 of Enrollment by Gender
Controlling for Internship=yes

		Gender		
		boys	girls	Total
Enrollment				
no	Frequency	1	1	2
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
yes	Frequency	1	1	2
	Percent	25.00	25.00	50.00
	Row Pct	50.00	50.00	
	Col Pct	50.00	50.00	
Total	Frequency	2	2	4
	Percent	50.00	50.00	100.00

FORMAT

```
proc format;
      value Fgreutate
            low-139="<140"
            140-180="140-180"
            181-high=">180";
      value Fvarsta
            low-18="adolescenti"
            18-60="adulti"
            60-high="varstnici";
run;

proc freq data=diabetes;
tables age;
format age Fvarsta.;
run;
```

FORMAT

```
proc freq data=diabetes;
  tables age*weight;
  format age Fvarsta. weight Fgreutate.;
run;
```

Tot FORMAT

```
proc freq data=diabetes;
tables sex*age*weight;
format age Fvarsta. weight Fgreutate.;
run;
```

(la fel ca mai sus)

CROSSLIST

```
proc freq data=diabetes;
     tables sex*age*weight/crosslist;
     format age Fvarsta. weight Fgreutate.;
run;
```

LIST

```
proc freq data=diabetes;
     tables sex*age*weight/list;
     format age Fvarsta. weight Fgreutate.;
run;
```

Alegerea statisticilor

- NOFREQ
- NOPERCENT
- NOROW
- NOCOL

apoi…

```
proc freq data=diabetes;
     tables sex age weight/ PLOTS=FREQPLOT ;
     format age Fvarsta. weight Fgreutate.;
run;
```

sau

```
proc freq data=diabetes;
     tables sex*age*weight/ PLOTS=FREQPLOT ;
     format age Fvarsta. weight Fgreutate.;
run;
```

sau

```
proc freq data=diabetes;
     tables sex*age/ PLOTS=mosaicplot ;
     format age Fvarsta. weight Fgreutate.;
run;
```

sau...

```
proc freq data=diabetes;
     tables sex*age/ PLOTS=all ;
     format age Fvarsta. weight Fgreutate.;
run;
```