Solution to Exercise 3: Creating a string variable in EpiData Analysis

Tasks:

- ***Write the program B_EX03.PGM to obtain patterns.***
- ***Limit your analysis to patients with a diagnostic sputum smear examination. Create an output file with three tables. The first table shows the result (positive or negative) by all patterns, the second the result only by essential patterns (defined above). The third determines which proportion among cases with any positive result is positive on the first, which is negative on the first but positive on the second, and which proportion is positive for the first time on the third examination only.***
- ***Write the output into a B_EX03.TXT output file.***

Solution:

The output is:

Bacteriologic case definition

pattern	Non-case	%	Case	%	Total	%
NNN	104	{100.0}	0	{0.0}	104	{77.6}
NP9	0	{0.0}	1	{3.3}	1	{0.7}
NPP	0	{0.0}	9	{30.0}	9	{6.7}
PP9	0	{0.0}	5	{16.7}	5	{3.7}
PPN	0	{0.0}	2	{6.7}	2	{1.5}
PPP	0	{0.0}	13	{43.3}	13	{9.7}
Total	104	{100.0}	30	{100.0}	134	

Percents: {Col}

Bacteriologic case definition

Essential patterns	Non-case	%	Case	%	Total	%
NNN	0	{0.0}	20	{66.7}	20	{14.9}
NN9	0	{0.0}	10	{33.3}	10	{7.5}
Px	104	{100.0}	0	{0.0}	104	{77.6}
Total	104	{100.0}	30	{100.0}	134	

Percents: {Col}

Bacteriologic case definition

Essential patterns	Case	%	Total	%
NNN	20	{66.7}	20	{66.7}
NN9	10	{33.3}	10	{33.3}
Total	30	{100.0}	30	

Percents: {Col}

The second table answers the question on the incremental gain from serial smears in this small dataset: the third smear examination did not add anything, three quarters of all cases (as defined here) were positive already on the first, and the final quarter was added with the second examination.

The program `B_EX03.PGM` might look as follows:

```
* This is b_ex03 EpiData Analysis program
* to determine the incremental yield from serial smears

cls
close
logclose

cd c:\epidata_course
```

```
read  "b_ex02.rec"

* Definition positive: any AFB in any of three results
* Values: "pos" or "neg" or "unk"

define result1 _
if res1=0            then result1="N"
if res1=9            then result1="9"
if res1>0 and res1<9 then result1="P"

define result2 _
if res2=0            then result2="N"
if res2=9            then result2="9"
if res2>0 and res2<9 then result2="P"

define result3 _
if res3=0            then result3="N"
if res3=9            then result3="9"
if res3>0 and res3<9 then result3="P"

define pattern ___
pattern=result1+result2+result3

savedata "b_ex03.rec" /replace

cls
close
logclose
read "b_ex03.rec"

define esspatt #
                                                    esspatt=9
if pattern="PPP"                                 then esspatt=1
if pattern="PPN" or pattern="PP9"                then esspatt=1
if pattern="PNN" or pattern="PN9" or pattern="P99" then esspatt=1
if pattern="PNP"                                 then esspatt=1
if pattern="NPP" or pattern="NP9"                then esspatt=2
if pattern="NNP"                                 then esspatt=3
if pattern="NNN"                                 then esspatt=4
if pattern="NN9"                                 then esspatt=5
if pattern="N99"                                 then esspatt=6
label esspatt "Essential patterns"
labelvalue esspatt /1="NNN"
labelvalue esspatt /2="NN9"
labelvalue esspatt /3="N99"
labelvalue esspatt /4="Px"
labelvalue esspatt /5="NPx"
labelvalue esspatt /6="NNP"

cls
set echo=off
logopen "b_ex03.txt" /replace
select reason=0
tables case pattern /c
tables case esspatt /c
select esspatt<4
tables case esspatt /c
logclose
select
set echo=on
```