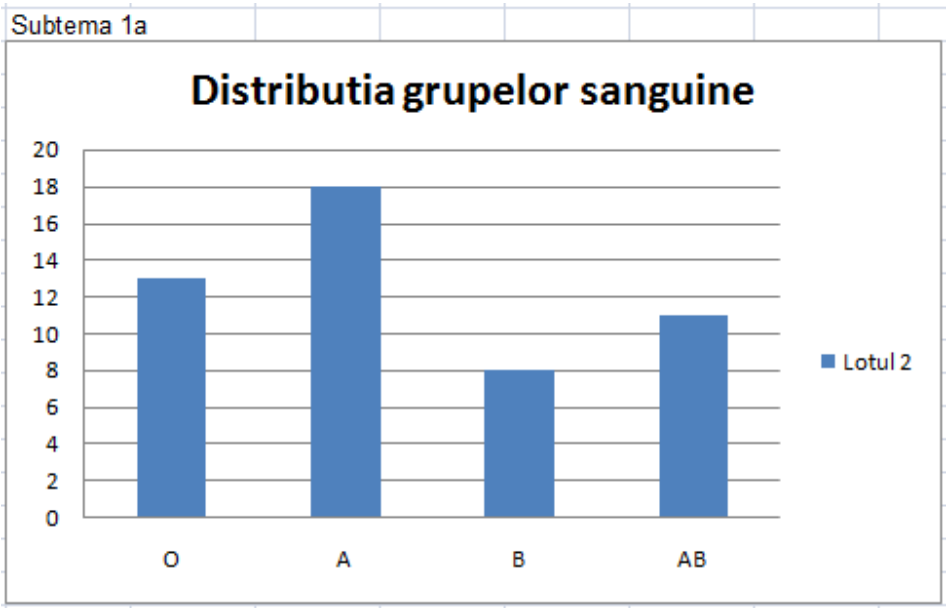
Anexa 2 – Rezultate

În această anexă sunt prezentate rezultatele sub formă de imagini (capturi de ecran) obținute urmărind protocoalele de lucru ale lucrărilor practice. Cu mici excepții, ele arată la fel, fie că s-a lucrat în Excel 2007 sau 2003.

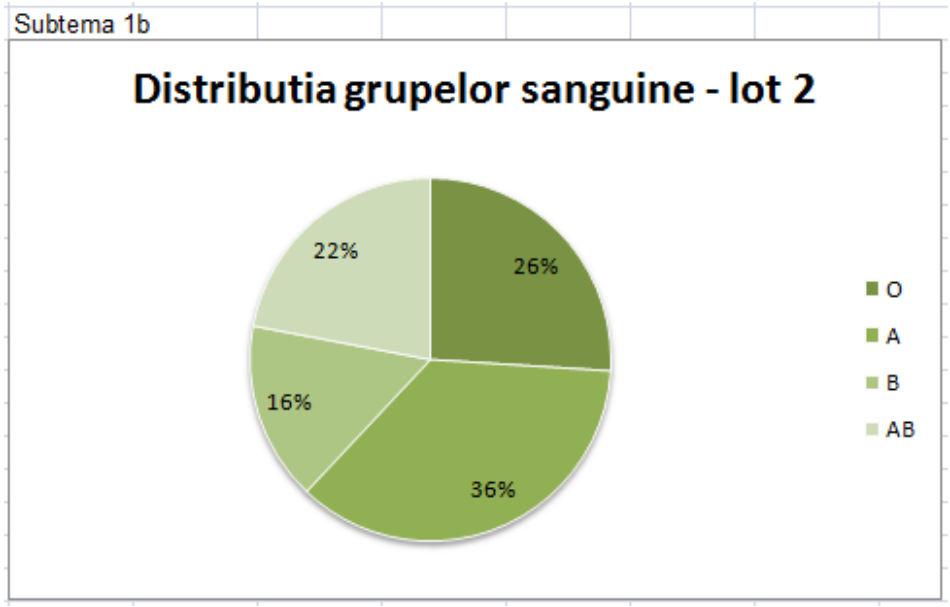
Rezultatele nu sunt comentate aici. Pentru aceasta urmăriți rubrica de ***Interpretare*** din fiecare lucrare, la fiecare subtemă.

Tema 1: Reprezentări grafice simple

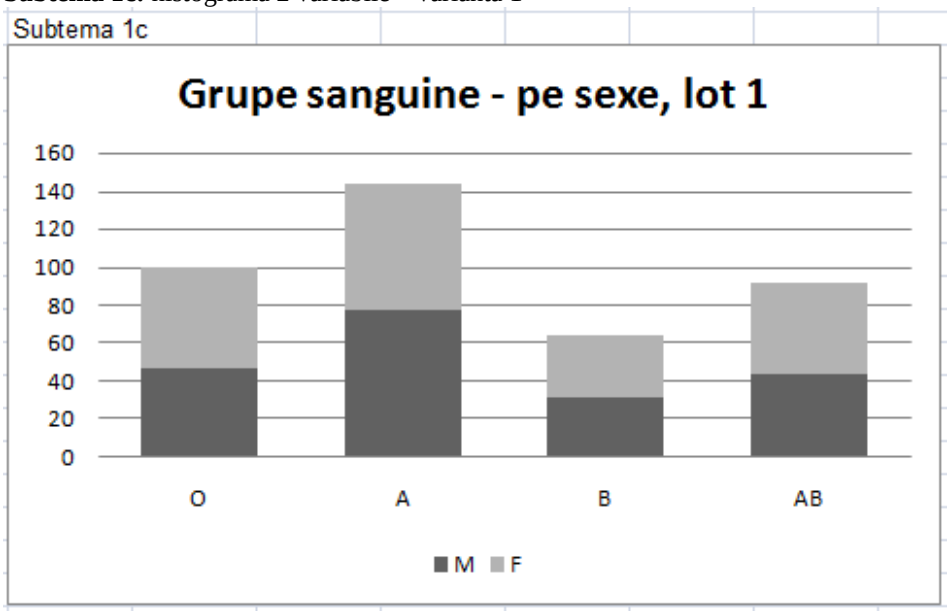
Subtema 1a: histograma 1 variabilă



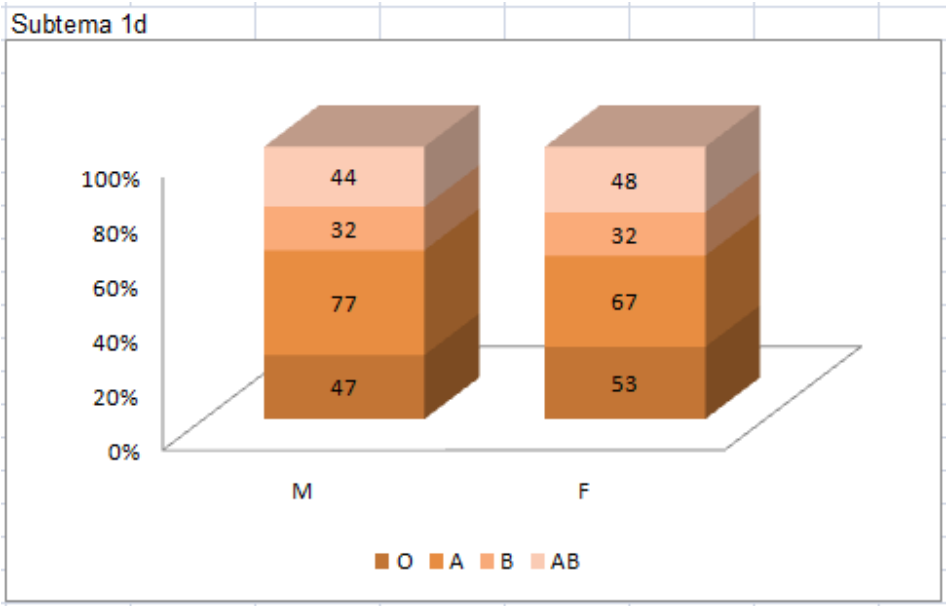
Subtema 1b: reprezentare sectorială

- 

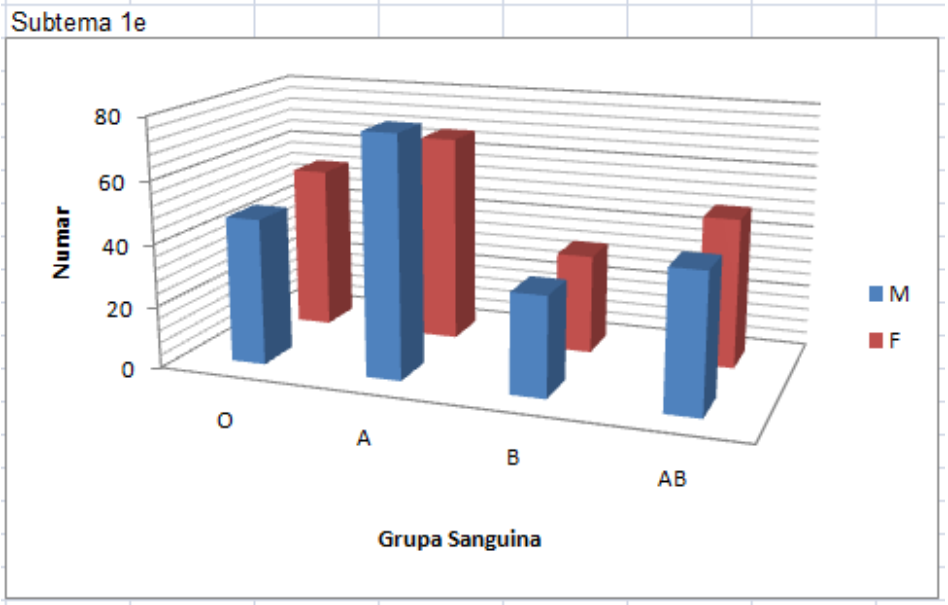
Subtema 1c: histograma 2 variabile – varianta 1

- 

Subtema 1d: histogramă 2 variabile – varianta 2



Subtema 1e: histogramă 2 variabile – varianta 3



Tema 2: Calcule simple în Excel

Subtema 2a: calcul totaluri şi procente

	Distributia grupelor sanguine				
tabel-1	O	A	B	AB	Total
M	47	77	32	44	200
F	53	67	32	48	200
Total	100	144	64	92	400
%	25	36	16	23	100
tabel-2	O	A	B	AB	Total
	13	18	8	11	50

Subtema 2b: calculul unor variabile intermediare sau finale

	A	B	C	D	E	F	G
1	Dezv.copii 10 ani						
2	nr	init	sex	inalt	greut	h(m)	BMI
3	1		F	140.5	39.8	1.41	20.16
4	2		F	140.6	40.3	1.41	20.39
5	3		M	139.5	30.9	1.40	15.88
6	4		F	137.7	35.3	1.38	18.62
7	5		M	138.3	29.5	1.38	15.42
8	6		M	134.5	28.5	1.35	15.75
9	7		M	135.1	24.5	1.35	13.42
10	8		M	134.2	31.5	1.34	17.49
11	9		F	138.3	34.2	1.38	17.88
12	10		F	139.3	37.5	1.39	19.33
13	11		F	130.8	39.4	1.31	23.03
14	12		F	137.1	35.5	1.37	18.89
15	13		M	137.5	29.2	1.38	15.44
16	14		M	141.2	32.6	1.41	16.35
17	15		M	139.4	31.3	1.39	16.11
18	16		M	134.3	31.6	1.34	17.52
19	17		M	146.4	27.9	1.46	13.02
20	18		M	139.6	32.5	1.40	16.68
21	19		M	140.5	29.7	1.41	15.05
22	20		F	142.8	34.5	1.43	16.92
23	21		M	128.2	31.6	1.28	19.23
24	22		M	136.1	23.8	1.36	12.85
25	23		M	141.6	32.6	1.42	16.26
26	24		M	135.8	28.7	1.36	15.56
27	25		F	134.8	40.8	1.35	22.45
28	26		M	144.9	32.9	1.45	15.67
29	27		M	146.0	31.1	1.46	14.59
30	28		F	137.8	37.5	1.38	19.75
31	29		M	140.4	29.8	1.40	15.12
32	30		M	137.9	32.9	1.38	17.30
33	31		M	142.9	30.2	1.43	14.79
34	32		M	141.5	30.1	1.42	15.03
35	33		M	141.1	25.5	1.41	12.81
36	34		M	139.0	29.5	1.39	15.27
37	35		F	136.6	40.6	1.37	21.76
38	36		F	149.5	33.3	1.50	14.90
39	37		F	134.5	34.1	1.35	18.85
40	38		M	142.8	31.6	1.43	15.50
41	39		F	144.1	36.6	1.44	17.63
42	40		F	139.6	34.1	1.40	17.50
43	41		M	141.4	32.9	1.41	16.45
44	42		F	143.3	33.9	1.43	16.51
45	43		F	132.7	38.9	1.33	22.09
46	44		F	144.6	35.5	1.45	16.98
47	45		M	142.5	28.3	1.43	13.94
48	46		M	143.2	29.8	1.43	14.53
49	47		F	139.7	34.8	1.40	17.83
50	48		M	139.3	29.3	1.39	15.10
51	49		M	138.9	30.9	1.39	16.02
52	50		F	139.0	34.9	1.39	18.06
53	51		F	146.0	35.0	1.46	16.42
54	52		M	139.8	32.7	1.40	16.73
55	53		M	138.0	31.6	1.38	16.59
56	54		F	140.7	33.9	1.41	17.12
57	55		F	140.9	40.2	1.41	20.25
58	56		M	133.6	26.2	1.34	14.68
59	57		F	135.9	33.5	1.36	18.14
60	58		M	137.6	29.0	1.38	15.32
61	59		M	143.6	31.4	1.44	15.23
62	60		M	137.7	27.3	1.38	14.40

Tema 3: Parametrii statistici

Tema 3a: parametrii statistici pentru 1 variabilă, pe un eşantion întreg pentru înălţimea grupului de copii

Tema 3b: parametrii statistici pentru 1 variabilă, pe un subgrup: înălţimea fetelor.

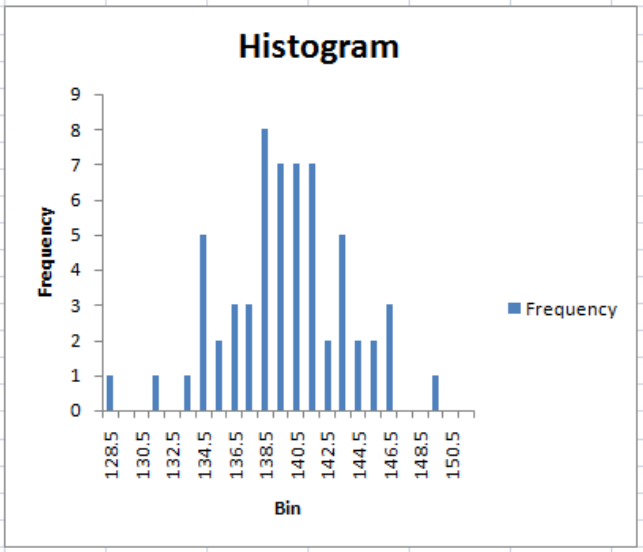
	A	B	C	D	E	F	G
1	F		Subtema 3b			Subtema 3a	
2	140.5		*inaltime fete*			*inalt toti copiii*	
3	140.6						
4	137.7		Mean	139.45		Mean	139.3517
5	138.3		Standard Error	0.876794		Standard Error	0.512127
6	139.3		Median	139.45		Median	139.45
7	130.8		Mode	#N/A		Mode	140.5
8	137.1		Standard Deviatior	4.295397		Standard Deviation	3.966918
9	142.8		Sample Variance	18.45043		Sample Variance	15.73644
10	134.8		Kurtosis	0.311065		Kurtosis	0.497942
11	137.8		Skewness	0.219437		Skewness	-0.15012
12	136.6		Range	18.7		Range	21.3
13	149.5		Minimum	130.8		Minimum	128.2
14	134.5		Maximum	149.5		Maximum	149.5
15	144.1		Sum	3346.8		Sum	8361.1
16	139.6		Count	24		Count	60
17	143.3						
18	132.7						
19	144.6						
20	139.7						
21	139.0						
22	146.0						
23	140.7						
24	140.9						
25	135.9						

Tema 4: Histograme din fişiere de date brute

Subtema 4a: crearea limitelor pentru histograme cu lăţimea clasei de 1 cm.

-

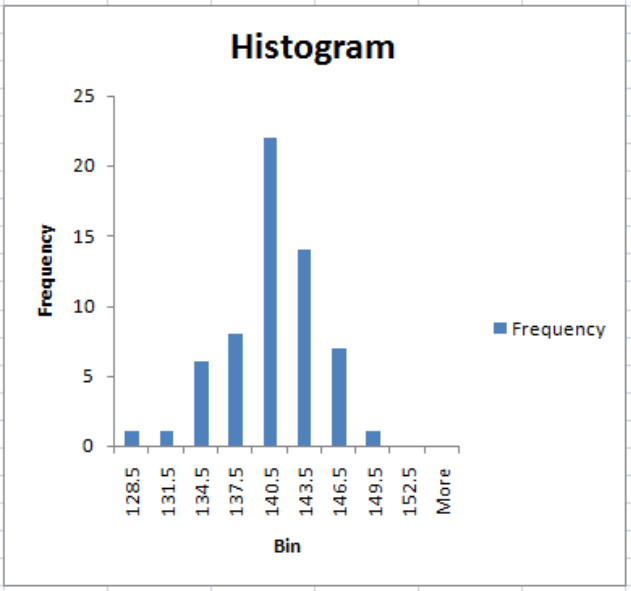
	Bin	Frequency
1.0		
128.5	128.5	1
129.5	129.5	0
130.5	130.5	0
131.5	131.5	1
132.5	132.5	0
133.5	133.5	1
134.5	134.5	5
135.5	135.5	2
136.5	136.5	3
137.5	137.5	3
138.5	138.5	8
139.5	139.5	7
140.5	140.5	7
141.5	141.5	7
142.5	142.5	2
143.5	143.5	5
144.5	144.5	2
145.5	145.5	2
146.5	146.5	3
147.5	147.5	0
148.5	148.5	0
149.5	149.5	1
150.5	150.5	0
151.5	More	0



Subtema 4b: crearea histogramelor cu lăţime optimă

	Bin	Frequency
3		
128.5	128.5	1
131.5	131.5	1
134.5	134.5	6
137.5	137.5	8
140.5	140.5	22
143.5	143.5	14
146.5	146.5	7
149.5	149.5	1
152.5	152.5	0
155.5	More	0

I	J
lg N	1.778151
numitor	6.907018
(XM - Xm)/num	3.08382



-

Tema 5: Teste statistice

Subtema 5a: testul t pereche

t-Test: Paired Two Sample for Means

	Sys-1	*sys-2*
Mean	158.3167	151.4333
Variance	307.4065	173.165
Observations	60	60
Pearson Correlation	-0.291513	
Hypothesized Mean	0	
df	59	
t Stat	2.149839	
P(T<=t) one-tail	0.017839	
t Critical one-tail	1.671093	
P(T<=t) two-tail	0.035679	
t Critical two-tail	2.000995	

Subtema 5b: testul t nepereche

t-Test: Two-Sample Assuming Unequal Variances

	M	*F*
Mean	158.037	158.5455
Variance	244.5755	367.9432
Observations	27	33
Hypothesized Mean	0	
df	58	
t Stat	-0.1131	
P(T<=t) one-tail	0.455171	
t Critical one-tail	1.671553	
P(T<=t) two-tail	0.910343	
t Critical two-tail	2.001717	

Subtema 5c: testul hi-pătrat

	A	B	C	D	E	F	G	H	I
1		Grupe sanguine							
2	**exp.1**	**0**	**A**	**B**	**AB**				
3	**observed**	50	80	40	70	240		p(chi-sq)	0.000828
4	**expected**	60	60	60	60				
5									
6									
7	**exp.2**	**0**	**A**	**B**	**AB**				
8	**observed**	5	8	4	7	24		p(chi-sq)	0.64437
9	**expected**	6	6	6	6				

Tema 6: Analiza corelaţiei

Subtema 6a: comanda *correlation*

	inalt	greut	BMI
inalt	1		
greut	0.751337	1	
BMI	-0.69062	-0.04296	1

Subtema 6b: comanda *regression*

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.751337
R Square	0.564507
Adjusted F	0.553047
Standard E	1.128908
Observatio	40

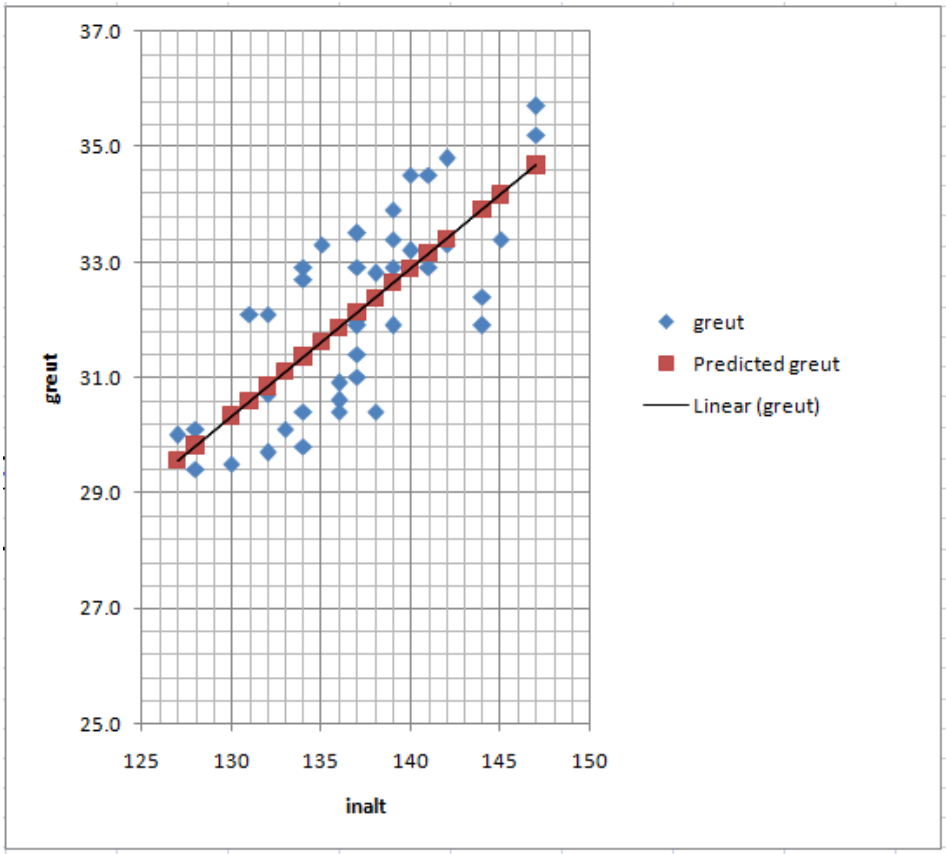
ANOVA

	df	SS	MS	F	ignificance F
Regressior	1	62.77531	62.77531	49.25745	2.32E-08
Residual	38	48.42844	1.274433		
Total	39	111.2038			

	Coefficients	tandard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	-2.8965	4.991391	-0.5803	0.565139	-13.001	7.208044	-13.001	7.208044
inalt	0.255587	0.036417	7.018365	2.32E-08	0.181865	0.329309	0.181865	0.329309

RESIDUAL OUTPUT

Observatio	redicted gre	Residuals
1	32.88565	0.31435
2	32.37448	-1.97448
3	30.84096	1.259044
4	33.908	-1.508
5	32.88565	1.61435
6	31.8633	-0.9633
7	32.63006	1.269937
8	34.16358	-0.76358
9	33.14124	-0.24124
10	30.84096	-0.14096
11	32.63006	0.769937
12	34.67476	1.025243



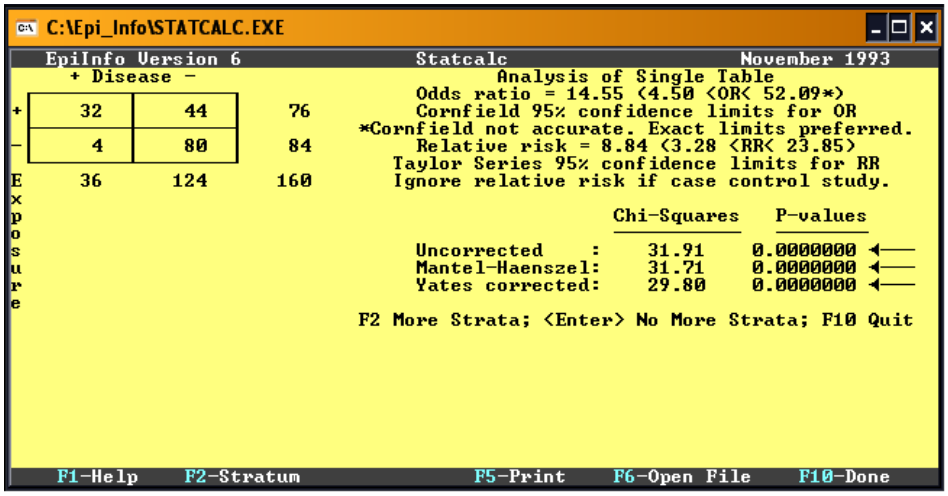
Tema 7: Analiza riscului

Subtema 7a: realizarea tabelului de contingenţă

	A	B	C	D
1		B+	B-	Total
2	E+	32	44	76
3	E-	4	80	84
4	Total	36	124	160

Subtema 7b: calculul indicatorilor

- Folosim pachetul statistic **Epi Info**



Tema 8: Validarea testelor diagnostice

Subtema 8a: crearea tabelului de contingenţă.

Subtema 8b: calculul indicatorilor.

	A	B	C	D	E	F	G	H	I	J	K
1	Test sarcina								T+	T-	total
2	nr.	Test	Conf	T	B	SP		B+	63	14	77
3	1	-	-	0	0	0		B-	32	11	43
4	2	+	+	1	1	3		total	95	25	120
5	3	+	-	1	0	1					
6	4	-	+	0	1	2					
7	5	+	+	1	1	3					
8	6	+	+	1	1	3		FP	0.744		
9	7	+	-	1	0	1		FN	0.182		
10	8	-	+	0	1	2		SN	0.818		
11	9	+	+	1	1	3		SP	0.256		
12	10	+	-	1	0	1		VPP	0.663		
13	11	+	+	1	1	3		VPN	0.44		
14	12	+	-	1	0	1		AC	0.617		
15	13	-	+	0	1	2		RE	0.383		
16	14	+	+	1	1	3		Y	0.074		
17	15	+	-	1	0	1					
18	16	-	-	0	0	0					