

4th Week

논리 함수



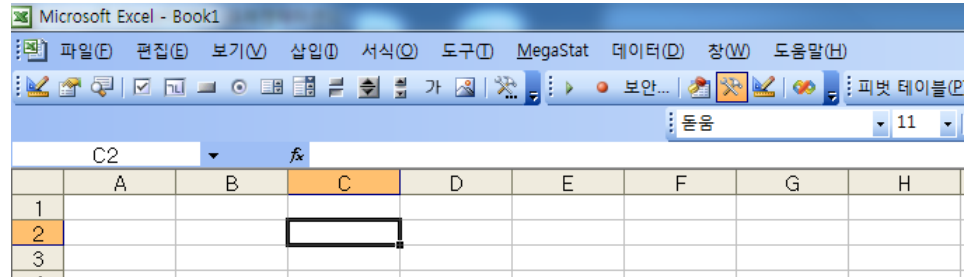
IF

AND

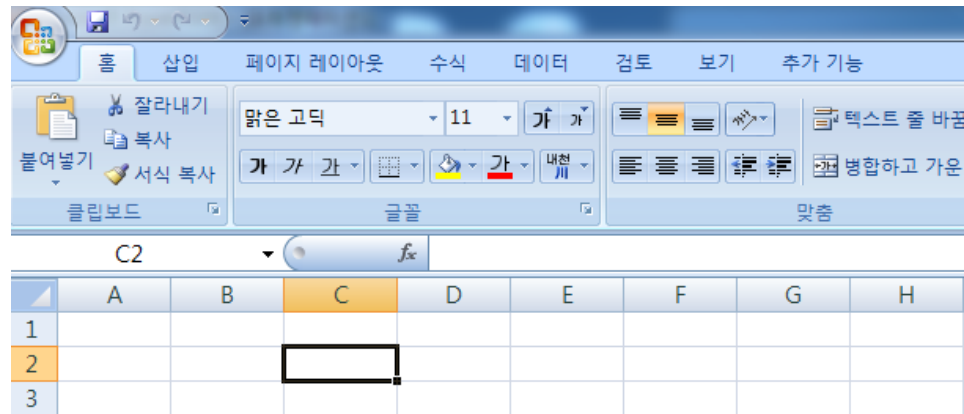
OR

NOT

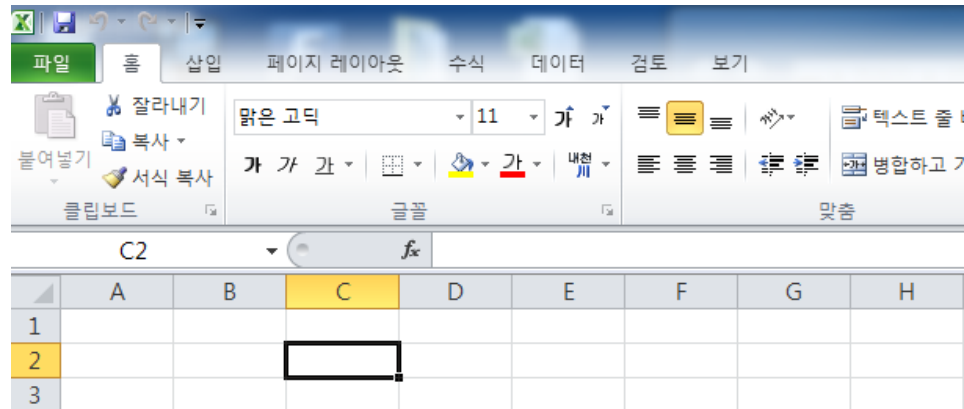
Excel 2003



Excel 2007



Excel 2010



체질량지수와 비만진단

BMI(Body Mass Index and Obesity Diagnosis)

■ BMI (kg/m²)

체질량지수(Body Mass Index)라고 하며 체중과 신장을 이용하여 비만 여부를 판정하기 때문에 '겉보기 비만지수' 라고도 한다.

$$\text{BMI} = \text{체중(Kg)} \div \text{신장}^2(\text{m}^2)$$

$$69 \quad 160$$

$$\text{BMI} = 69 \div (1.6)^2 = 26.95$$

구분	남	여	판정
표준 이하	18.5 미만	18.5 미만	저체중
표준	22(18.5~24.9)	21(18.5~24.9)	정상
표준이상	25~30	25~30	과체중
표준이상	30 이상	30 이상	비만

Data

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)

보안... 피벗 테이블(P) 맑은 고딕 11

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight					
2	1	53	160					
3	2	60	168					
4	3	50	148					
5	4	60	151					
6	5	58	154					
7	6	49	156					
8	7	59	165					
9	8	53	148					
10	9	62	155					
11	10	48	155					
12	11	65	163					
13	12	61	163					
14	13							
15	14							
16	15							
17	16							
18	17							
19	18							
20	19							
21	20							
22	21	54	152					
23	22	48	152					
24	23	50	159					

구분	남	여	판정
표준 이하	18.5 미만	18.5 미만	저체중
표준	22(18.5~24.9)	21(18.5~24.9)	정상
표준이상	25~30	25~30	과체중
표준이상	30 이상	30 이상	비만

BMI

Obesity

Noraml

Obesity Diagnosis

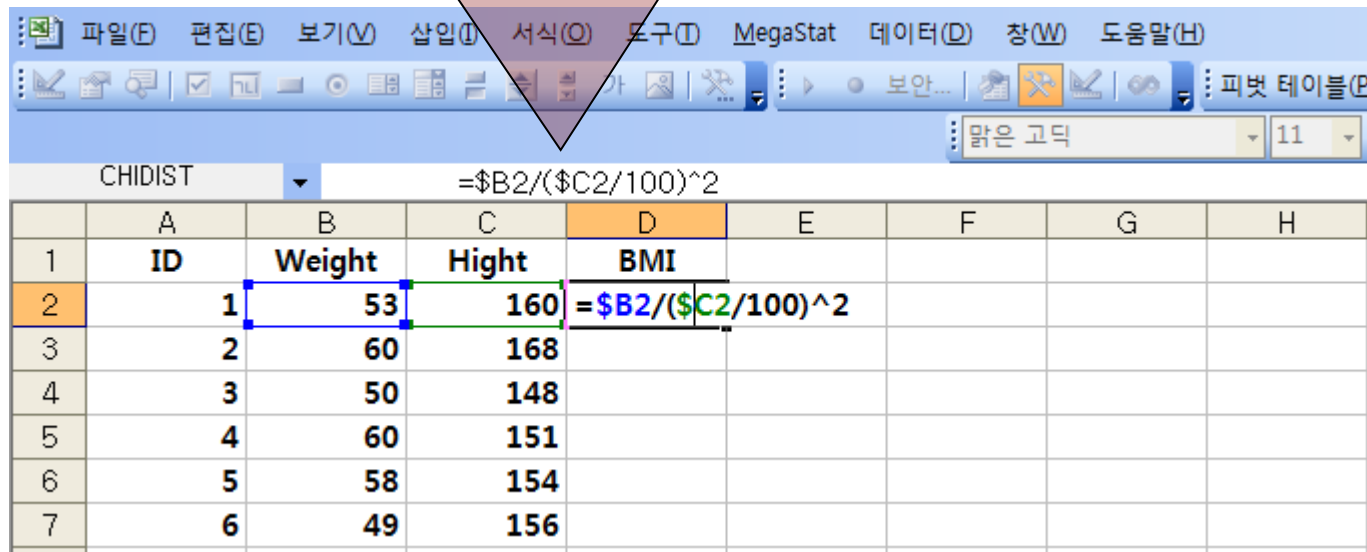
Act 1

체질량지수와 비만진단

BMI(Body Mass Index) and Obesity Diagnosis

BMI 계산

$$= \$B2 / (\$C2 / 100)^2$$



CHIDIST =\$B2/(\$C2/100)^2

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI				
2	1	53	160	=B2/(C2/100)^2				
3	2	60	168					
4	3	50	148					
5	4	60	151					
6	5	58	154					
7	6	49	156					

체질량지수와 비만진단

BMI(Body Mass Index) and Obesity Diagnosis

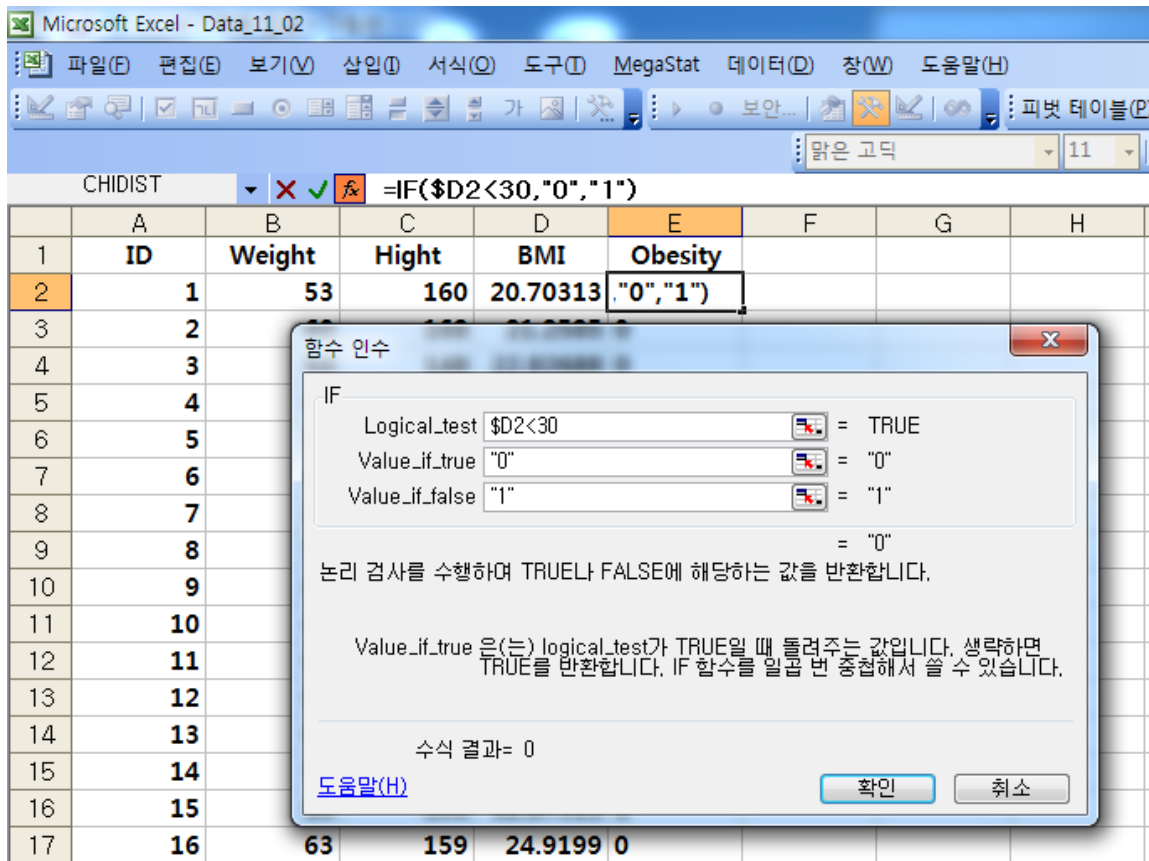
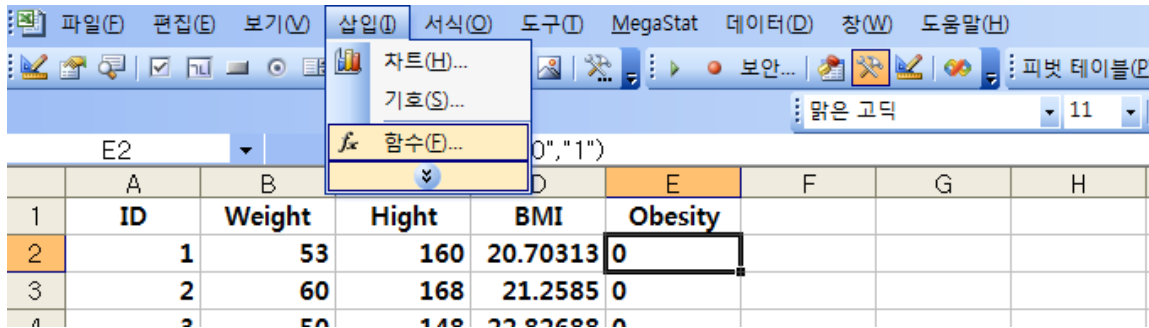
비만 여부 판정

=If(\$D2<30,"0","1")

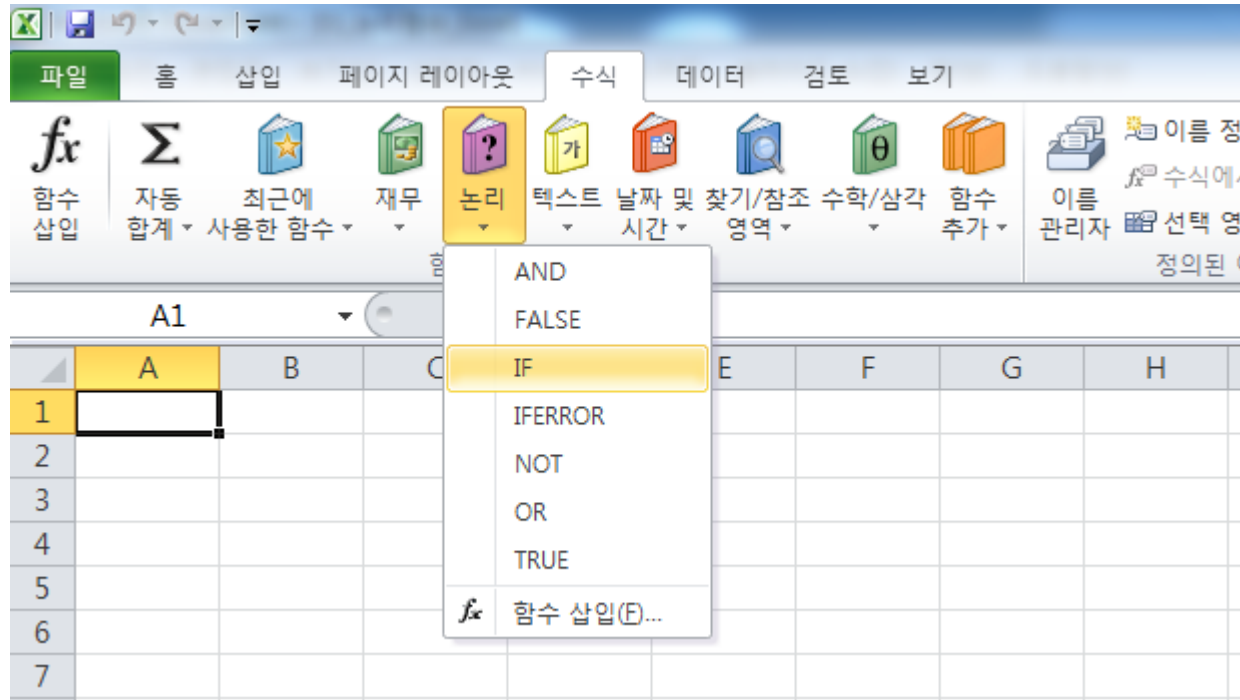
The screenshot shows a spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI	Obesity			
2	1	53	160	20.70313	=If(\$D2<30,"0","1")			
3	2	60	168	21.2585	IF(logical_test, [value_if_true], [value_if_false])			
4	3	50	148	22.82688				
5	4	60	151	26.31464				
6	5	58	154	24.45606				
7	6	49	156	20.13478				

IF(logical_test,[value_if_true],[value_if_false])



[수식] → 함수 라이브러리 → 논리 → IF



체질량지수와 비만진단

BMI(Body Mass Index) and Obesity Diagnosis

비만 여부 판정

=If(\$D2<30,"0","1")

The screenshot shows a spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI	Obesity			
2	1	53	160	20.70313	=If(\$D2<30,"0","1")			
3	2	60	168	21.2585	IF(logical_test, [value_if_true], [value_if_false])			
4	3	50	148	22.82688				
5	4	60	151	26.31464				
6	5	58	154	24.45606				
7	6	49	156	20.13478				

IF(logical_test,[value_if_true],[value_if_false])

IF(logical_test,[value_if_true],[value_if_false])

CHIDIST =if(\$D2>=30,"1","0")

	A	B	C	D	E	F	G	H	I
1	ID	Weight	Hight	BMI	Obesity				
2	1	53	160	20.70313	0	=If(\$D2>= 30, "1", "0")			
3	2	60	168	21.2585	0	IF(logical_test, [value_if_true], [value_if_false])			
4	3	50	148	22.82688	0				

OR(Logical1, Logical2, ...)

CHIDIST =if(OR(\$D2>30,\$D2=30),"1","0")

	A	B	C	D	E	F	G	H	I
1	ID	Weight	Hight	BMI	Obesity				
2	1	53	160	20.70313	0	=If(OR(\$D2 > 30, \$D2 = 30), "1", "0")			
3	2	60	168	21.2585	0				

NOT(Logical)

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)

보안... 피벗 테이블(P)

CHIDIST =if(NOT(D2<30),"1","0")

	A	B	C	D	E	F	G	H
1	ID	Weight	Height	BMI	Obesity			
2	1	53	160	20.70313	0	=if(NOT(D2<30),"1","0")		
3	2	60	168	21.2585	0			

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)

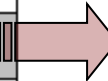
보안... 피벗 테이블(P)

CHIDIST =if(\$D2<30,"0","1")

	A	B	C	D	E	F	G	H
1	ID	Weight	Height	BMI	Obesity			
2	1	53	160	20.70313	0	=if(\$D2<30,"0","1")		
3	2	60	168	21.2585	0			



구분	남	여	판정
표준 이하	18.5 미만	18.5 미만	저체중
표준	22(18.5~24.9)	21(18.5~24.9)	정상
표준이상	25~30	25~30	과체중
표준이상	30 이상	30 이상	비만



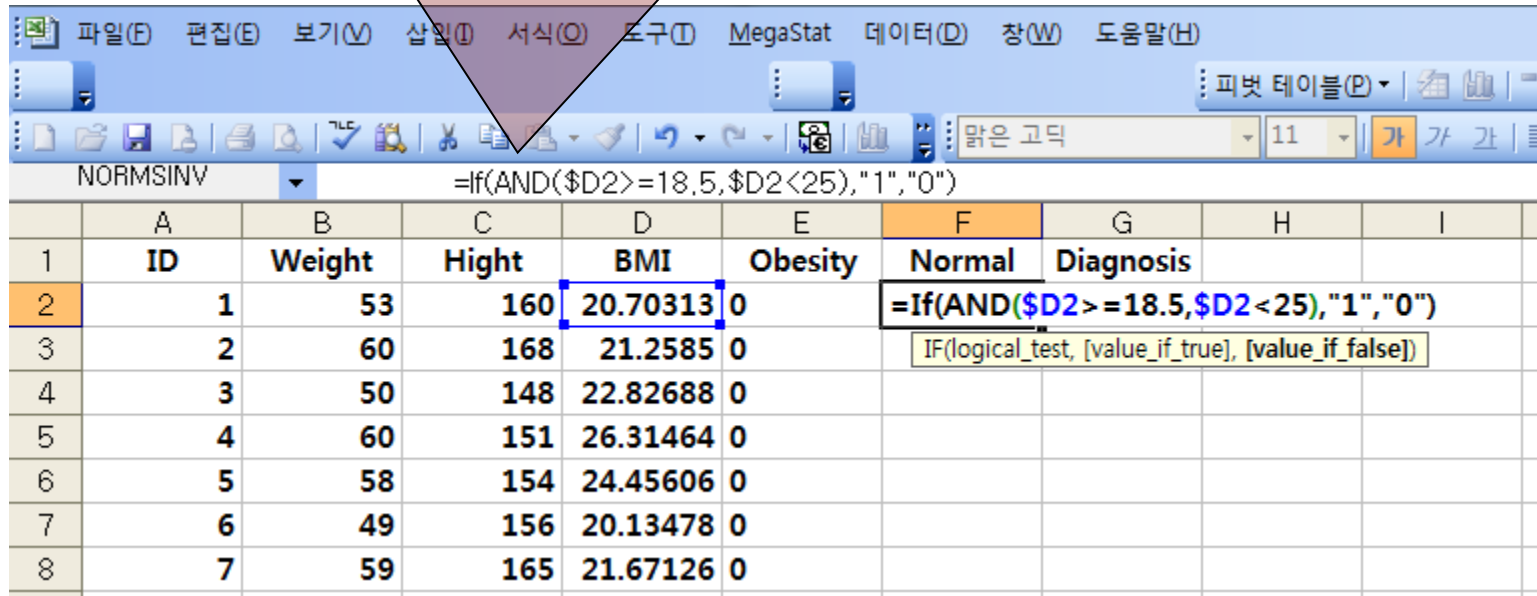
1

체질량지수와 비만진단

BMI(Body Mass Index) and Obesity Diagnosis

정상 여부 판정

=If(AND(\$D2>=18.5,\$D2<25),"1","0")



	A	B	C	D	E	F	G	H	I
1	ID	Weight	Hight	BMI	Obesity	Normal	Diagnosis		
2	1	53	160	20.70313	0	=If(AND(\$D2>=18.5,\$D2<25),"1","0")			
3	2	60	168	21.2585	0				
4	3	50	148	22.82688	0				
5	4	60	151	26.31464	0				
6	5	58	154	24.45606	0				
7	6	49	156	20.13478	0				
8	7	59	165	21.67126	0				

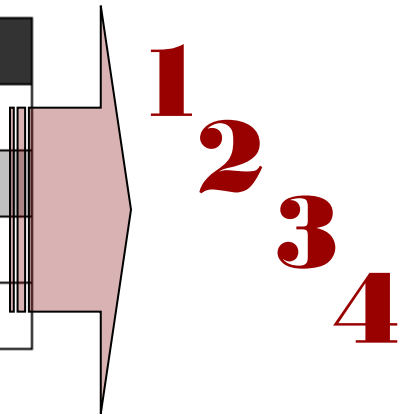
IF(logical_test, [value_if_true], [value_if_false])

AND(Logical1, Logical2, ...)

Act 2



구분	남	여	판정
표준 이하	18.5 미만	18.5 미만	저체중
표준	22(18.5~24.9)	21(18.5~24.9)	정상
표준이상	25~30	25~30	과체중
표준이상	30 이상	30 이상	비만



Microsoft Excel - Data_11_02

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)

자트(H)...
기호(S)...
함수(F)...

보안... 피벗 테이블(P) 맑은 고딕 11

E2 = "0","1")

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI	Obesity			
2	1	53	160	20.70313	0			
3	2	60	168	21.2585	0			
4	3	50	148	22.82688	0			

HINT

Microsoft Excel - Data_11_02

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)

보안... 피벗 테이블(P) 맑은 고딕 11

CHIDIST =IF(\$D2<30,"0","1")

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI	Obesity			
2	1	53	160	20.70313	"0","1")			
3	2							
4	3							
5	4							
6	5							
7	6							
8	7							
9	8							
10	9							
11	10							
12	11							
13	12							
14	13							
15	14							
16	15							
17	16	63	159	24.9199	0			

함수 인수

IF

Logical_test \$D2<30 = TRUE

Value_if_true "0" = "0"

Value_if_false "1" = "1"

논리 검사를 수행하여 TRUE나 FALSE에 해당하는 값을 반환합니다.

Value_if_true 은(는) logical_test가 TRUE일 때 돌려주는 값입니다. 생략하면 TRUE를 반환합니다. IF 함수를 일곱 번 중첩해서 쓸 수 있습니다.

수식 결과= 0

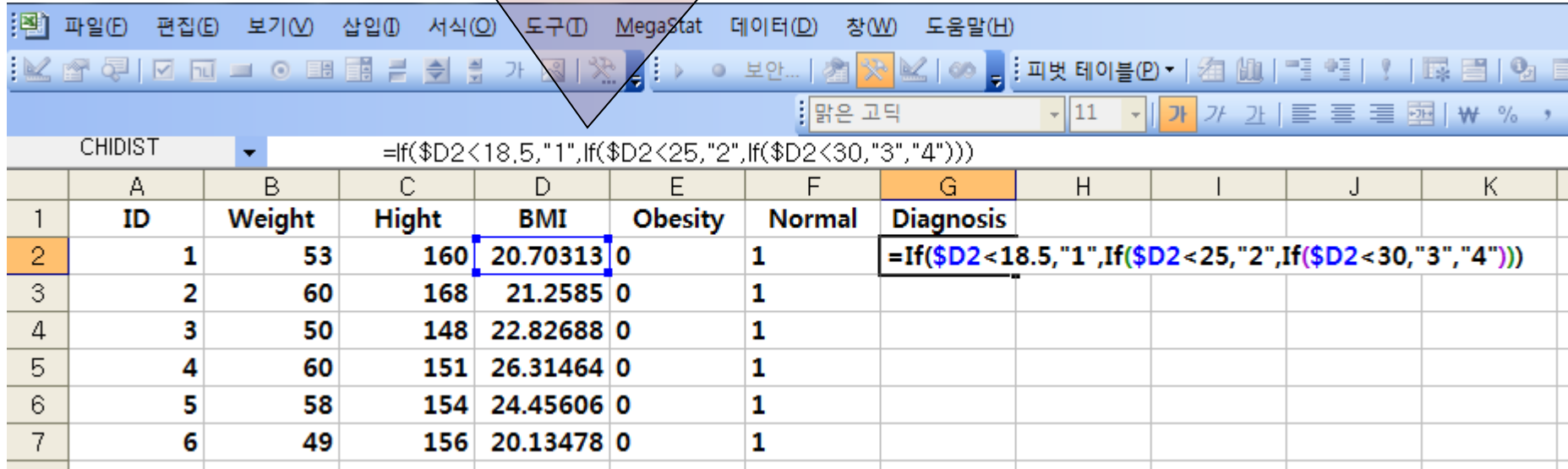
도움말(H) 확인 취소

체질량지수와 비만진단

BMI(Body Mass Index) and Obesity Diagnosis

비만 판정

=If(\$D2<18.5,"1",If()
=If(...,If(\$D2<25,"2",If()
=If(...,If(\$D2<30,"3","4")))



	A	B	C	D	E	F	G	H	I	J	K
1	ID	Weight	Hight	BMI	Obesity	Normal	Diagnosis				
2	1	53	160	20.70313	0	1	=If(\$D2<18.5,"1",If(\$D2<25,"2",If(\$D2<30,"3","4")))				
3	2	60	168	21.2585	0	1					
4	3	50	148	22.82688	0	1					
5	4	60	151	26.31464	0	1					
6	5	58	154	24.45606	0	1					
7	6	49	156	20.13478	0	1					

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) MegaStat 데이터(D) 창(W) 도움말(H)
 보안...
 맑은 고딕 11

L27 fx

	A	B	C	D	E	F	G	H
1	ID	Weight	Hight	BMI	Obesity	Normal	Diagnosis	
2	1	53	160	20.70313	0	1	2	
3	2	60	168	21.2585	0	1	2	
4	3	50	148	22.82688	0	1	2	
5	4	60	151	26.31464	0	1	3	
6	5	58	154	24.45606	0	1	2	
7	6	49	156	20.13478	0	1	2	

Act 3

LOTTO

A screenshot of an Excel spreadsheet showing a list of random numbers generated by the RANDBETWEEN function. The formula bar shows '=RANDBETWEEN(1,45)'. The numbers are: 20, 37, 14, 22, 23, 6.

	A	B	C	D	E
1	20				
2	37				
3	14				
4	22				
5	23				
6	6				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					

RANDBETWEEN(Bottom,Top)

Ctrl + Enter

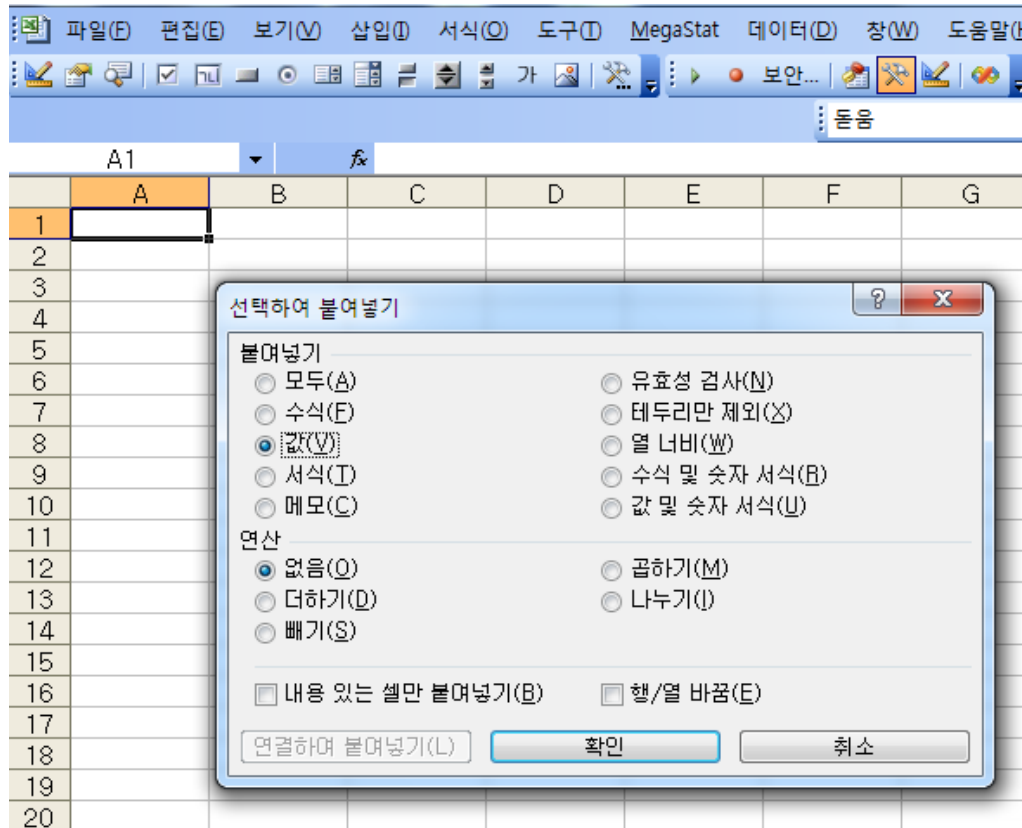
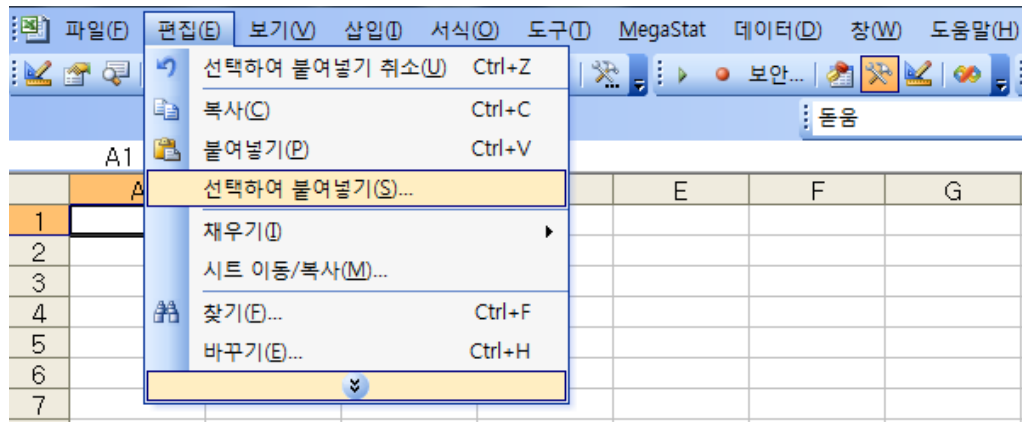
F9

Microsoft Excel interface showing a spreadsheet with a formula being entered. The formula bar shows `=randbetween(50,100)`. The spreadsheet has columns A (ID), B (Perf01), C (Perf02), and D (Perf03). A callout box indicates the keyboard shortcut **Ctrl + Enter** for filling down the formula.

	A	B	C	D
1	ID	Perf01	Perf02	Perf03
2	1	=randbetween(50,100)		
3	2			
4	3			
5	4			
6	5			
7	6			
8	7			
9	8			
10	9			
11	10			
12	11			
13	12			
14	13			
15	14			
16	15			
17	16			
18	17			
19	18			
20	19			
21	20			

Microsoft Excel interface showing the completed spreadsheet. The formula bar shows `=`. The spreadsheet contains numerical data for Perf01, Perf02, and Perf03.

	A	B	C	D
1	ID	Perf01	Perf02	Perf03
2	1	95	68	58
3	2	68	82	97
4	3	59	70	82
5	4	83	60	67
6	5	88	52	57
7	6	54	56	53
8	7	92	77	100
9	8	68	69	67
10	9	92	92	98
11	10	74	94	78
12	11	62	91	79
13	12	57	82	59
14	13	89	88	68
15	14	65	98	62
16	15	87	65	71
17	16	67	65	90
18	17	84	52	74
19	18	63	81	60
20	19	80	62	50
21	20	69	83	99



1. 평균?

2. 평균 80 이상이면 합격

3. 모두 80 이상이야 승진

	A	B	C	D	E	F	G	H
1	ID	Perf01	Perf02	Perf03				
2	1	95	68	58				
3	2	68	82	97				
4	3	59	70	82				
5	4	83	60	67				
6	5	88	52	57				
7	6	54	56	53				
8	7	92	77	100				
9	8	68	69	67				
10	9	92	92	98				
11	10	71	81	70				

CHIDIST		=average(\$B2:\$D2)								
	A	B	C	D	E	F	G	H	I	
1	ID	Perf01	Perf02	Perf03	Mission01					
2	1	95	68	58	=average(\$B2:\$D2)					
3	2	68	82	97	AVERAGE(number1, [number2], ...)					
4	3	59	70	82						
5	4	83	60	67						
6	5	88	52	57						
7	6	54	56	53						

CHIDIST		=if(\$E2>=80,"합격","")								
	A	B	C	D	E	F	G	H	I	
1	ID	Perf01	Perf02	Perf03	Mission01	Mission02				
2	1	95	68	58	73.66667	=if(\$E2>=80,"합격","")				
3	2	68	82	97	82.33333	IF(logical_test, [value_if_true], [value_if_false])				
4	3	59	70	82	70.33333					
5	4	83	60	67	70					
6	5	88	52	57	65.66667					
7	6	54	56	53	54.33333					

CHIDIST

=If(AND(\$B2>=80,\$C2>=80,\$D2>=80),"승진","")

	A	B	C	D	E	F	G	H	I	J	K
1	ID	Perf01	Perf02	Perf03	Mission01	Mission02	Mission03				
2	1	95	68	58	73.66667		=If(AND(\$B2>=80,\$C2>=80,\$D2>=80),"승진","")				
3	2	68	82	97	82.33333	합격	IF(logical_test, [value_if_true], [value_if_false])				
4	3	59	70	82	70.33333						
5	4	83	60	67	70						
6	5	88	52	57	65.66667						
7	6	54	56	53	54.33333						
8	7	92	77	100	89.66667	합격					
9	8	68	69	67	68						
10	9	92	92	98	94	합격					
11	10	74	94	78	82	합격					
12	11	62	91	79	77.33333						

	A	B	C	D	E	F	G	H
1	ID	Perf01	Perf02	Perf03	Mission01	Mission02	Mission03	
2	1	95	68	58	73.66667			
3	2	68	82	97	82.33333	합격		
4	3	59	70	82	70.33333			
5	4	83	60	67	70			
6	5	88	52	57	65.66667			
7	6	54	56	53	54.33333			
8	7	92	77	100	89.66667	합격		
9	8	68	69	67	68			
10	9	92	92	98	94	합격	승진	
11	10	74	94	78	82	합격		
12	11	62	91	79	77.33333			

어느 하나라도 60 미만이면 재교육

	A	B	C	D	E	F	G	H
1	ID	Perf01	Perf02	Perf03	Mission01	Mission02	Mission03	
2	1	95	68	58	73.66667			
3	2	68	82	97	82.33333	합격		
4	3	59	70	82	70.33333			
5	4	83	60	67	70			
6	5	88	52	57	65.66667			
7	6	54	56	53	54.33333			
8	7	92	77	100	89.66667	합격		
9	8	68	69	67	68			
10	9	92	92	98	94	합격	승진	
11	10	74	94	78	82	합격		
12	11	62	91	79	77.33333			