Hello Wolrd!
$y = 2x - 1$
$y = 2x - 1$
$y = 2x - 1$

$$y = 2x - 1$$

$x^{2y}, x^{2y^x}, X_{n_1}^{2y^z}$

$X_{3m}^{2m}, X^2 n_3 m$

X_n^2, X_n^2, X_{n^2}

$2^{2^{2^{2^{2^{2^2}}}}}$

$f'(x) \quad f'''(x)|_{x=0}$

$\pi, \Phi, \Sigma, \mu, \alpha$

$\mathit{\Gamma\Pi\Phi}$는 $\Gamma\Pi\Phi$와 다르다.

... 는 $\Psi\Theta\Omega$와 다르다.

$\sqrt[n]{x}, \sqrt[3]{ax+b}, \sqrt[2]{5}, \sqrt{2}, \sqrt[x]{2}$

$$\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+x}}}}}} \tag{1}$$

$$\sqrt{a}\sqrt{d}\sqrt{g}$$

$(x_1 + \cdots + x_n)$
$(a_1, \ldots, a_m)$
$(a_1, \vdots, a_n)$
$(a_1, \ddots, a_n)$

$\frac{x^2+1}{y_1^2-1}$

$1+\cfrac{1}{1+\cfrac{\frac{1}{1+\frac{1}{1+\frac{1}{1+x}}}}{1+\frac{1}{1+\frac{1}{1+x}}}}$

$\frac{1}{2}\ \frac{x}{2}$

$\mathcal{A}\otimes$

$\mathcal{A}\trianglelefteq$

$\mathcal{S}$를 $\mathcal{S}=\{A\ \big|\ A\ni\mathcal{T}\}$라 하자.

$\not\Lambda,\emptyset$

$\not\ni,\not\subset,\not<$

$\lim_{n\to\infty}$

$\liminf_{n\longrightarrow\infty}$

$liminf_{n\longrightarrow\infty}$

$a \bmod b \qquad y \pmod{a+b}$

$\int\int\cdots\int f dP$

$\int\!\!\int\cdots\int f dP$

$\iint\cdots\int f dP$

$1/\log n$

$\sqrt{4}\,n$

$$f(x;\mu,\sigma)=\frac{1}{\sqrt{2\pi}\sigma}\exp\Big\{-\frac{(x-\mu)^2}{2\sigma^2}\Big\}$$

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$$\sum_{i=1}^{n}x_i=\int_0^1 f$$

$\sum_{i=1}^{n}x_i=\int_0^1 f$

$\cfrac{a-b}{c+d}$

$\frac{a-b}{c+d}$

$$\vec{x}+\vec{y}=\left\{\begin{array}{l} a \\ b \end{array}\right.$$

$$\mathbf{A} = \begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix}$$

$$\widehat{a-1} = \widetilde{x-y} + \widehat{\mathrm{Cov}}$$

$$\begin{array}{lll} a & b & c \\ a-b & b-c & c-a \\ x^2+2x+1 & x^2+2x+1 & x^2+2x+1 \end{array}$$

$$\begin{array}{c} a_{11}x_1+a_{12}x_2+\cdots+a_{1n}x_n=b_1 \\ a_{11}x_1+a_{12}x_2+\cdots+a_{1n}x_n=b_1 \\ \vdots \\ a_{11}x_1+a_{12}x_2+\cdots+a_{1n}x_n=b_1 \end{array} \tag{2}$$

$$\left(\begin{array}{|cc|} \hline a & b \\ c & d \\ \hline \end{array} \begin{array}{c} \\ e \\ f \end{array} \right)$$

$$x^n = \overbrace{x \times x \times \cdots \times x}$$

$$\overbrace{a+\underbrace{b+\overline{c+d}}+e}$$

$$\overbrace{a+\underbrace{b+c}_{123}+e}^{ab}$$

$$\frac{p(x_i|\mathbf{x}_{-i})}{1-p(x_i|\mathbf{x}_{-i})} = \theta_1 \sum_{i=1}^{m} x_i + \beta_1 \sum_{\text{nbr}} x_i x_{i'} \tag{3}$$

$$\frac{p(x_i|\boldsymbol{x}_{-i})}{1-p(x_i|\boldsymbol{x}_{-i})} = \theta_1 \sum_{i=1}^{m} x_i + \beta_1 \sum_{\text{nbr}} x_i x_{i'} \tag{4}$$

Test the above equation label in here (3).

$$\begin{aligned} (x+y)^2 &= x^2+xy+yx+y^2 && (5) \\ &= x^2+xy+xy+y^2 \\ &= x^2+2xy+y^2 && (6) \end{aligned}$$

$$\begin{aligned}(x+y)^2 &= x^2+xy+yx+y^2 \\ &= x^2+2xy+y^2\end{aligned} \tag{7}$$

$$\begin{aligned}(x+y)^2 &= x^2+xy+yx+y^2 \\ &= x^2+2xy+y^2\end{aligned}$$

$$\begin{aligned}a+b+c+d+e+f+g+h+i+j+k+l = \\ x+y+z+a+b+c+d+e+f+g+o+s+t+ \\ u+v+w\end{aligned}$$

Math italic $diffferent$ is from *different*.

$$f(x) = \begin{cases} x & if x > 2 or if x < -2 \\ x & \text{if} x > 2 \text{or if} x < -2 \\ x & \text{if} x > 2 \text{ or if } x < -2 \end{cases} \tag{8}$$

Form $\mathrm{e}^{\mathrm{pdf}} + \phi(\mathrm{x})$

Form $e^{pdf} + \phi(x)$

$\mathtt{Form}\ \mathtt{e}^{\mathtt{pdf}} + \phi(\mathtt{x})$

Form $\mathbf{e}^{\mathbf{pdf}} + \phi(\mathbf{x})$

$\mathsf{Form}\ \mathsf{e}^{\mathsf{pdf}} + \phi(\mathsf{x})$

$\mathcal{ABC}$

$\mathbf{a} = (a_1, a_2, \ldots, a_n)^T$

$\boldsymbol{a = (a_1, a_2, \ldots, a_n)^T}$

$\boldsymbol{a}= (a_1, a_2, \ldots, a_n)^T$

$\boldsymbol{a} = (a_1, a_2, \ldots, a_n)^T$

$\boldsymbol{aX + \beta + \gamma}$

$\boldsymbol{aX} + \boldsymbol{\beta} + \boldsymbol{\gamma}$

$A \xrightarrow{f} B \xrightarrow{g} C$

$AAAAA$

$\frac{a+b}{c-d}$

$\frac{a+b}{a+b}$

$1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1+x}}}}}$

$$1 + \cfrac{1}{1 + \cfrac{1}{1 + \cfrac{1}{1 + \cfrac{1}{1 + + \cfrac{1}{1+x}}}}}$$

$$\text{표준편차} = \sqrt{\text{분산}} = \sqrt{\frac{\text{편차}^2\text{의 합}}{\text{표본의 개수} - 1}} \tag{9}$$

$\int_0^\infty f(x)dx$

$\int\limits_0^\infty f(x)dx$

$\displaystyle\int_0^\infty f(x)dx$

$\int_0^\infty f(x)dx$

$\displaystyle\int_0^\infty f(x)dx$

$\inf\sup_{n\to\infty} f_n(x)$

$\inf\sup_{n\to\infty} f_n(x)$

$\inf\sup_{n\to\infty}^{\text{woops}} f_n(x)$

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$\binom{2n}{n}$, ${}_{2n}\mathrm{C}_{\mathrm{n}}$

$\left(\begin{array}{c} 2n \\ n \end{array}\right)$

$\binom{2n}{n}$

$\left[\begin{smallmatrix} x \\ 2y \end{smallmatrix}\right]$

$\left\{\begin{smallmatrix} a-c \\ b \end{smallmatrix}\right\}$

${}^{231}_{73}\mathrm{U}$

${}^{231}_{73}\mathrm{U}$

$x + \left\langle \begin{smallmatrix} a+b \\ c \end{smallmatrix} \right\rangle$

$x + \uparrow \begin{smallmatrix} a+b \\ c \end{smallmatrix} \downarrow$

$A = \begin{pmatrix} \lambda & l \\ a & \alpha \end{pmatrix}$

$B = \left(\begin{array}{cc} \lambda & 1 \\ a & \alpha \end{array}\right)$

$$A = \begin{array}{c} \\ m_1 \\ m_2 \end{array} \begin{array}{c} \begin{array}{ccc} n_1 & n_2 & n_3 \end{array} \\ \begin{pmatrix} A_{11} & A_{12} & A_{13} \\ A_{21} & A_{22} & A_{23} \end{pmatrix} \end{array}$$

$$A = \begin{array}{c} \\ m_1 \\ m_2 \end{array} \begin{array}{c} \begin{array}{ccc} n_1 & n_2 & n_3 \end{array} \\ \left(\begin{array}{ccc} A_{11} & A_{12} & A_{13} \\ A_{21} & A_{22} & A_{23} \end{array}\right) \end{array}$$

$$f(x) = \begin{cases} x & \text{for } x > 0 \\ -x & \text{for } -1 < x \leq 0 \\ x^2 & \text{otherwise} \end{cases}$$

$$f(x) = \begin{cases} \quad x & \text{for } x > 0 \\ -x & \text{for } -1 < x \leq 0 \\ \quad x^2 & \text{otherwise} \end{cases}$$

$\frac{a+b}{c+d}$ $\frac{a+b}{c+d}$

$\{x \middle| x \in X\}$

$\{x \mid x \in X\}$

$\{x \middle| x \in X\}$

$\{x \middle| x \in X\}$

$\left\{\left\{\left\{\{\}\right\}\right\}\right\}$

$|b = |x + y||$

$\left|b - |x + y|\right|$

$$\frac{1}{\sqrt{2\pi}\sigma} \exp\{-\frac{(x-\mu)^2}{2\sigma^2}\} \text{ if } \mu = 0, \sigma = 1, \tag{10a}$$

$$\frac{1}{\sqrt{2\pi}\sigma} \exp\{-\frac{x^x}{2\sigma^2}\} \text{ if } \mu = 0, \tag{10b}$$

$$\frac{1}{\sqrt{2\pi}} \exp\{-\frac{x^2}{2}\} \text{ if } \mu = 0, \sigma = 1. \tag{10c}$$

식 (10b)와 식 (10c)는 식 (10a)의 특별한 경우이다.
$\mathbb{ABCDER}$

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⌜⌝⌞⌟

$$\sum_{\substack{i=j\\i<k\\j\neq k}} x_{ij}^{j-k}$$

$$\iiint\limits_{\substack{x\in A\\y\in B\\c\ni z}} f(x,y,z)dxdydz$$

$$\sideset{}{^{m-n}}{\sum^{n}} x_{ij}$$

$$\begin{multline} a = d+e+f+g+h+i+j+k+l+m\\ +q+r+s+t+u+v+w+x+y+x+z\\ +q+r+s+t+u+v+w+x+y+x+z\\ = e+f+g+h+i+j+k+l+m+z+y+x+m_2 \end{multline} \tag{11}$$

$$\begin{split} a &= b+c+d+e\\ &- f+g+m\\ &= x^2+y^2+z \end{split} \tag{12}$$

$$(x+y)^2 = x^2+2xy+y^2 \tag{13}$$

$$(x+y+z)^2 = x^2+y^2+z^2+2xy+2yz+2zx \tag{14}$$

$$(x+y)^2 = x^2+2xy+y^2 \tag{15}$$

$$(x+y+z)^2 = x^2+y^2+z^2+2xy+2yz+2zx \tag{16}$$

$$a_{11} = a_{12} \qquad a_{13} = a_{14} \tag{17}$$

$$(x+y)^2 = (x+y)(x+y)x^2 + 2xy + y^2 = z^2 \tag{18}$$

$$f(x) = \frac{1}{(1+x^2)} \qquad g(x) = \sqrt{2\pi} \tag{19}$$

$$\begin{array}{rcr} a = \alpha & & D = \Delta\Delta\Delta \\ b = \beta\beta & \text{versus} & e = \epsilon\epsilon \\ c = \gamma\gamma\gamma & & Z = \Omega \end{array} \tag{20}$$

$$\begin{array}{rcr} a = \alpha & & D = \Delta\Delta\Delta \\ b = \beta\beta & \text{versus} & e = \epsilon\epsilon \\ c = \gamma\gamma\gamma & & Z = \Omega \end{array} \tag{21}$$

$$\begin{array}{lcl} f(x) = \mathcal{F}(x) g(x) = \mathcal{G}(x) & \text{where} & \mathfrak{F} = \mathbb{F} \\ f(x) = \mathfrak{F}(x)\, g(x) = \mathfrak{G}(x) & & \mathfrak{G} = \mathbb{G} \end{array} \tag{22}$$

$$f(x) = \mathcal{F}(x) \qquad g(x) = \mathcal{G}(x) \qquad \mathcal{G} = \mathbb{G} \tag{23}$$

$$f(x) = \mathfrak{F}(x) \qquad g(x) = \mathfrak{G}(x) \qquad \mathcal{F} = \mathbb{F} \tag{24}$$

$$\begin{array}{lll} f(x) = \mathcal{F}(x) & g(x) = \mathcal{G}(x) & \mathcal{G} = \mathbb{G} \\ f(x) = \mathfrak{F}(x) & g(x) = \mathfrak{G}(x) & \mathcal{F} = \mathbb{F} \end{array}$$

$$P_{i-j} = \begin{cases} 0 & \text{if } r-j \text{ is odd} \\ r!(-1)^{i-j} & \text{if } r-j \text{ is even} \end{cases} \tag{25}$$

$$a_1 = a_0 + d \tag{26}$$

$$a_2 = a_1 + d = a_0 + 2d \tag{27}$$

in general

$$a_n = a_{n-1} + d = a_0 + nd \tag{28}$$

$$a_1 = a_0 + d \tag{29a}$$
$$a_n = a_{n-1} + d \tag{29b}$$

$$A_1, A_2, \ldots, \qquad A_1, A_2, \ldots, \tag{30a}$$
$$A_1 + A_2 + \cdots, \qquad A_1 + A_2 + \cdots, \tag{30b}$$
$$\text{곱하기} A_1 A_2 \cdots, \qquad A_1, A_2 \cdots, \tag{30c}$$
$$\int_{A_1}\int_{A_2} \cdots \qquad \int_{A_1}\int_{A_2} \cdots \tag{30d}$$

"다음의 행렬 $\left[\begin{smallmatrix} a & b \\ c & d \end{smallmatrix}\right]$ 은 문장 내에서 쓴 작은 행렬이다."

$$\begin{matrix} a_{11} & a_{12} & a_{13} \\ a_{21} & \ldots\ldots\ldots \end{matrix}$$

$$\boldsymbol{A} = \begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix}$$

$$\boldsymbol{A} = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$$

$$\boldsymbol{A} = \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$

$$\boldsymbol{A} = \begin{Vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{Vmatrix}$$

$$\begin{pmatrix} D_1 t & -a_{12}t_2 & \ldots & -a_{1n}t_n \\ -a_{21}t_1 & D_2 t & \ldots & -a_{2n}t_n \\ -a_{31}t_1 & \ldots\ldots\ldots\ldots\ldots & & \\ -a_{n1}t_1 & -a_{n2}t_2 & \ldots & D_n t \end{pmatrix}$$

$$\overleftarrow{a} \quad \overrightarrow{a} \quad \overleftrightarrow{a} \quad \underleftrightarrow{a\ a} \quad \underleftrightarrow{a}$$

$$\ddot{a} \quad \ddot{\ddot{a}} \quad \ddot{\ddot{\ddot{a}}}$$