

Hello Wolrd!

$$y=2x-1$$

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

$$X_{3m}^{2m}, X^{2n_3m}$$

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

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

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

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

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

$$\dots \, \Psi\theta\Omega\text{는 }\Psi\theta\Omega\text{와 다르다.}$$

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

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

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

$$(x_1+\cdots+x_n)$$

$$(a_1,\ldots,a_m)$$

$$(a_1,\dot{,},a_n)$$

$$(a_1,\dot{\cdots},a_n)$$

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

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

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

$$\mathcal{A}\otimes$$

$$\mathcal{A}\trianglelefteq$$

$$\mathcal{S}\text{를 } \mathcal{S}=\{A\mid A\ni \mathcal{T}\}\text{라 하자.}$$

$$\mathbb{A},\emptyset$$

$$\not\exists,\not\subset,\not\prec$$

$$\lim_{n\rightarrow\infty}$$

$$\liminf_{n\longrightarrow\infty}$$

$$\liminf_{n\rightarrow\infty}$$

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

$$\int\int\cdots\int fdP$$

$$\int\!\!\int\cdots\!\!\int fdP$$

$$\int\!\!\int\cdots\!\!\int fdP$$

$$1/\log n$$

$$\sqrt{4}n$$

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

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

$$\frac{\sum_{i=1}^n x_i}{a-b} = \int_0^1 f$$

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

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

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

$$\mathbf{A} = \left( \begin{array}{ccc} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{array} \right)$$

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

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

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

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

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

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

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

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

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

Test the above equation label in here (3).

$$(x+y)^2 \quad = \quad x^2 + xy + yx + y^2 \tag{5}$$

$$\begin{aligned} &= x^2 + xy + xy + y^2 \\ &= x^2 + 2xy + y^2 \end{aligned} \tag{6}$$

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

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

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

Math italic *different* is from *different*.

$$f(x)=\left\{\begin{array}{ll}x& if\,x>2orif\,x<-2\\x& if\,x>2orif\,x<-2\\x& if\,x>2\,or\,if\,x<-2\end{array}\right.\tag{8}$$

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

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

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

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

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

$$\mathcal{ABC}$$

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

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

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

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

$$\boldsymbol{a}\boldsymbol{X}+\boldsymbol{\beta}+\boldsymbol{\gamma}$$

$$\boldsymbol{a}\boldsymbol{X}+\boldsymbol{\beta}+\boldsymbol{\gamma}$$

$$A\overset{f}{\rightarrow}B\overset{g}{\rightarrow}C$$

$$AAAAA$$

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

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

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

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

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

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

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

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

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

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

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

$$\inf_{n\rightarrow\infty}\sup f_n(x)$$

$$\overset{\text{woops}}{\inf_{n\rightarrow\infty}\sup f_n(x)}$$

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

$$\binom{2n}{n},\,2n\mathbf{C}_n$$

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

$$\binom{2n}{n}$$

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

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

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

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

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

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

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

$$B=\begin{pmatrix}\lambda&1\\a&\alpha\end{pmatrix}$$

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

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

$$f(x)=\left\{\begin{array}{ll}x & \text{for } x>0 \\ -x & \text{for } -1<x\leq 0 \\ x^2 & \text{otherwise}\end{array}\right.$$

$$f(x)=\left\{\begin{array}{ll}x & \text{for } x>0 \\ -x & \text{for } -1<x\leq 0 \\ x^2 & \text{otherwise}\end{array}\right.$$

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

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

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

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

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

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

$$|b=|x+y||$$

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

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

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

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

식 (10b)와 식 (10c)는 식 (10a)의 특별한 경우이다.  
 ABCDER

**MathfrackFont**

$$\mathbb{R}\checkmark\blacklozenge$$

$$F\kappa\aleph\daleth$$

$$\lceil\rceil\lfloor\rfloor$$

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

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

$$\sum\limits^{m-n}_n x_{ij}$$

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

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

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

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

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

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



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

$$(x+y)^2 = (x+y)(x+y)x^2 + 2xy + y^2 = z^2 \qquad (18)$$

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

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

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

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

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

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

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

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

$$a_1 = a_0 + d \qquad (26)$$

$$a_2 = a_1 + d = a_0 + 2d \qquad (27)$$

in general

$$a_n = a_{n-1} + d = a_0 + nd \qquad (28)$$

$$a_1 = a_0 + d \tag{29a}$$

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

$$A_1, A_2, \dots, \quad A_1, A_2, \dots, \tag{30a}$$

$$A_1 + A_2 + \dots, \quad A_1 + A_2 + \dots, \tag{30b}$$

$$\text{곱하기} A_1 A_2 \dots, \quad A_1, A_2 \dots, \tag{30c}$$

$$\int_{A_1} \int_{A_2} \dots \quad \int_{A_1} \int_{A_2} \dots \tag{30d}$$

“다음의 행렬  $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$  은 문장 내에서 쓴 작은 행렬이다.”

$$\begin{array}{lll} a_{11} & a_{12} & a_{13} \\ a_{21} & \dots\dots\dots & \end{array}$$

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

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

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

$$\boldsymbol{A} = \left\| \begin{array}{lll} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{array} \right\|$$

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

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

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

$$A\overset{n\rightarrow\infty}{\underset{\mu}{\leftarrow}}B\overset{n\rightarrow-\infty}{\underset{\sigma}{\rightarrow}}C\overset{\hspace{0.1cm}}{\underset{\delta}{\rightarrow}}D$$

$$\sqrt[\beta]{x}\sqrt[\beta]{x}$$

$$\boxed{\eta \leq N(\mu, \sigma^2) + O_p(n)}$$

$$\frac{a+b}{c-d}\qquad\binom{n}{x}$$

$$\frac{a+b}{c-d}\qquad\binom{n}{x}$$

$$\frac{a+b}{c-d}\qquad\binom{n}{x}$$

$$\frac{2}{\sqrt{2}+\frac{1}{\sqrt{2}+\frac{1}{\sqrt{2}+\frac{1}{\sqrt{2}+\frac{1}{\sqrt{2}+\cdots}}}}}$$

$$X^*_X$$

$$^b\sum_c^d$$

$$\sum_c^b\int$$

$$\gcd(n,m\bmod n)$$

$$x=y\pmod{b}$$

$$x=y\mod c$$

$$x=y\pmod{d}$$

$$\int f d\mu \quad \iint f d\mu \quad \iiint f d\mu \quad \iiiii f d\mu \quad \int \cdots \int f d\mu$$

$$\sqrt{a} + \sqrt{y} + \sqrt{d} \quad \sqrt{a} + \sqrt{y} + \sqrt{d}$$