first time written maths equations in latex using inline and environment type maths setting

$$
\begin{aligned}
f(x) &= x \\
f(x) &= x^2 + 2x + 1 \\
f(x) &= x^2 + 2x + 1
\end{aligned}
\tag{1}
$$

$$
\begin{aligned}
a + b &= c \\
b + d &= e
\end{aligned}
$$

$$
\begin{aligned}
a + b &= c \\
b &= d + e
\end{aligned}
$$

$$
\begin{aligned}
c &= \begin{matrix} 1 & 2 \\ 2 & 2 \end{matrix} \\
u &= \begin{bmatrix} 1 & 2 \\ 2 & 2 \end{bmatrix} \\
v &= \begin{bmatrix} 1 & 2 \\ 2 & 2 \end{bmatrix} \\
G(x) &= \left(\frac{1}{x^3} \right) \\
F(\alpha) &= \int_1^\alpha \frac{1}{x} dx
\end{aligned}
$$

$$
\begin{aligned}
f(x) &= \sin x \\
g(x) &= sinx \\
h(x) &= \csc x \\
a &= \int_a^b xdx \\
c &= \int_b^a xdx \\
h(x) &= \int_D xdx \\
u(x,y) &= \iint_D f(x,y)dxdy \\
v &= \oint_D Fds \\
M &= \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \\
N &= \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \\
D &= \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \\
c &= \det \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \\
P &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 1 & 0 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 1 & 0 & 0 & 0 \end{bmatrix} \\
f(x) &= \log x \\
g(x) &= \log_a x \\
h(x) &= \sqrt{x} \\
u(x,n) &= \sqrt[n]{x} \\
\phi(x) &= \frac{f(x)}{g(x)}
\end{aligned}
$$

Now above are some few commands for typesetting maths