

高代补充题-1

计算下面行列式的值。

1) Cauchy 行列式

$$\begin{vmatrix} \frac{1}{a_1+b_1} & \frac{1}{a_1+b_2} & \cdots & \frac{1}{a_1+b_n} \\ \frac{1}{a_2+b_1} & \frac{1}{a_2+b_2} & \cdots & \frac{1}{a_2+b_n} \\ \cdots & \cdots & \cdots & \cdots \\ \frac{1}{a_n+b_1} & \frac{1}{a_n+b_2} & \cdots & \frac{1}{a_n+b_n} \end{vmatrix}$$

2)

$$\begin{vmatrix} 1 & a & a^2 & \cdots & a^{n-1} \\ a & 1 & a & \cdots & a^{n-2} \\ a^2 & a & 1 & \cdots & a^{n-3} \\ \cdots & \cdots & \cdots & \cdots & \cdots \\ a^{n-1} & a^{n-2} & a^{n-3} & \cdots & 1 \end{vmatrix}$$

References

- [1] <https://www.cnblogs.com/torsor/p/15329047.html>