

EXERCISE 2.8.2

LUQING YE

Exercise 1. *Let the function f be holomorphic in the open set G . Prove that the function $g(z) = \overline{f(\bar{z})}$ is holomorphic in the set $G^* = \{\bar{z} : z \in G\}$.*

Proof. Let $f(x + yi) = u + vi$, then

$$\frac{\partial u}{\partial x} = \frac{\partial v}{\partial y}, \quad \frac{\partial u}{\partial y} = -\frac{\partial v}{\partial x}.$$

Then,

$$g(x - yi) = u - vi.$$

Done. □

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