

3. Let I be an interval in \mathbb{R} and assume $f : I \rightarrow \mathbb{R}$ is twice differentiable at all points of I . Suppose that $a \in I$, $f'(a) = 0$ and $f'(x) \neq 0$ for all $x \in I$, $x \neq a$. Prove: If $f''(a) > 0$, then $f(a)$ is the minimum value of f in I ; that is $f(a) \leq f(x)$ for all $x \in I$.