9. [10 points] The function $f(x)$ is twice-differentiable. Some values of f and f' are given in the following table. In addition, it is known that $f''(x)$ is positive.

x	0	1	2	3	4
$f(x)$	7	6	7	9	12
$f'(x)$	-2	$\frac{1}{2}$	1	2	4

No partial credit will be given on any part of this problem.

a. [4 points] **Circle** any statement which is true, and **draw a line through** any statement which is false.

(i.) For some value of x with $0 < x < 1$, f has a critical point.

(ii.) For some value of x with $1 < x < 2$, f has a critical point.

(iii.) For some value of x with $2 < x < 3$, f has a critical point.

(iv.) For some value of x with $3 < x < 4$, f has a critical point.

b. [3 points] If possible, find the global minimum value of $f(x)$ on the closed interval $[0, 4]$. (Give the y-coordinate, not the x-coordinate.) Do not give an approximation. If it is not possible to find it exactly, write "IT IS NOT POSSIBLE TO FIND IT EXACTLY."

c. [3 points] If possible, find the global maximum value of $f(x)$ on the closed interval $[0, 4]$. (Give the y-coordinate, not the x-coordinate.) Do not give an approximation. If it is not possible to find it exactly, write "IT IS NOT POSSIBLE TO FIND IT EXACTLY."