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Solution:

Given,

Cache access time = 100ns

Memory access time = 1000ns

Hit ratio = 0.9

Average access time = Hit ratio x Cache access time + (1 - Hit ratio) x Main memory access time

Using above formula:

Average access time = $0.9 \times 100\text{ns} + (1 - 0.9) \times 1000\text{ns} = 190\text{ns}$

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