

[Ciências](#) / [Ciência da computação](#) / [Introduction to the Theory of Computation \(3rd Edition\)](#)

Exercício 5

Capítulo 5, Página 239

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Introduction to the Theory of Computation

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[Índice](#)**Solução** Certificado

Passo 1

1 de 2

Since if we have $A \leq_m B$ it also implies $\overline{A} \leq_m \overline{B}$, we can use that here to see that if $A_{TM} \leq_m E_{TM}$ we would also have $\overline{A_{TM}} \leq_m \overline{E_{TM}}$.

But, we already know that $\overline{E_{TM}}$ is Turing-recognizable, while $\overline{A_{TM}}$ is not, so $\overline{A_{TM}} \leq_m \overline{E_{TM}}$ is not possible and we got a contradiction.

Therefore, A_{TM} is not mapping reducible to E_{TM} .

Resultado

2 de 2

Use the fact that $A \leq_m B$ implies $\overline{A} \leq_m \overline{B}$.

Avaliar esta solução[< Exercício 4](#)[Exercício 6 >](#)