

Tutorial 1

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to prove an algorithm is not a ρ -approximation algorithm, it is necessary to give one specific

input I such that $ALG(I) > \rho \cdot OPT(I)$

↓
this can be an 'artificial' example

↓
not $ALG(I) > \rho \cdot LB(I)$

approximation ratio is tight \equiv it is not possible to prove a better ratio

\equiv ALG is not a ρ' -approximation algorithm
for any $\rho' < \rho$

can be proven by giving one input I such that $ALG(I) \geq \rho \cdot OPT(I)$

- specify input I

- analyse $ALG(I)$

- analyse $OPT(I)$ not $LB(I)$