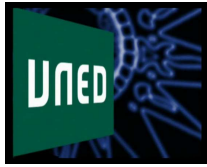


REDUCCIÓN DE CSAT A 3SAT



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Reducción de CSAT a 3SAT

$$E = e_1 \wedge e_2 \wedge \dots \wedge e_k$$

$$\text{¿} e_i \equiv (\quad \vee \quad \vee \quad) \text{?}$$

Casos (1/5)

$$e_1 = x_1 \vee x_2 \vee x_3$$

Casos (2/5)

$$\begin{aligned} e_1 &= x_1 \vee x_2 \\ &\equiv (x_1 \vee x_2 \vee u_1) \wedge (x_1 \vee x_2 \vee u_1) \end{aligned}$$

Casos (3/5)

$$\begin{aligned} e_1 &= x_1 \\ &\equiv (x_1 \vee u_1 \vee u_2) \wedge (x_1 \vee u_1 \vee u_2) \\ &\wedge (x_1 \vee u_1 \vee u_2) \wedge (x_1 \vee u_1 \vee u_2) \end{aligned}$$

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Casos (4/5)

$$\begin{aligned} e_1 &= x_1 \vee x_2 \vee x_3 \vee x_4 \\ &\equiv (x_1 \vee x_2 \vee u_1) \wedge (x_3 \vee x_4 \vee u_1) \end{aligned}$$

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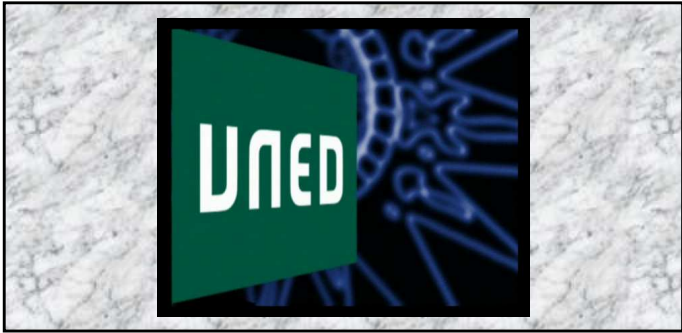
Casos (5/5)

$$\begin{aligned} e_1 &= x_1 \vee x_2 \vee x_3 \vee x_4 \vee x_5 \\ &\equiv (x_1 \vee x_2 \vee u_1) \wedge (x_3 \vee \bar{u}_1 \vee u_2) \\ &\wedge (x_4 \vee x_5 \vee \bar{u}_2) \end{aligned}$$

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Res.: reducción de CSAT a 3SAT

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