Tecnología de la Programación. ITIS. Curso 2007/2008

Grupos Cooperativos. Seminario 2. 22 de Noviembre de 2007

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1. Calcular y simplificar: $wp(\text{"}b[i] := b[j]; b[j] := b[i]\text{"}, b[b[i]] = b[j])$

$wp(\text{"}b[i] := b[j]; b[j] := b[i]\text{"}, b[b[i]] = b[j]) \equiv wp(\text{"}b[i] := b[j]\text{"}, wp(\text{"}b[j] = b[i]\text{"}, b[b[i]] = b[j]))$

Primero calcularemos:

$wp(\text{"}b[j] := b[i]\text{"}, b[b[i]] = b[j]) = enrango(b, i)$ cand $dominio(b[i])$ cand $enrango(b, j)$ cand $(b[b[i]] = b[j])^{b}_{(b;j:b[i])}$

Desarrollando el último término obtenemos:

$(b[b[i]] = b[j])^{b}_{(b;j:b[i])}$

$\equiv (b; j : b[i])[(b; j : b[i])[i]] = (b; j : b[i])[j])$

$\equiv (b; j : b[i])[(b; j : b[i])[i]] = b[i]$

$\equiv (j = i \wedge (b; j : b[i])[b[i]] = b[i]) \vee (j \neq i \wedge (b; j : b[i])[b[i]] = b[i])$

Sacando factor común el segundo término de ambas conjunciones tenemos:

$\equiv (j = i \vee j \neq i) \wedge ((b; j : b[i])[b[i]] = b[i])$

$\equiv (b; j : b[i])[b[i]] = b[i]$

$\equiv (j = b[i] \wedge b[i] = b[i]) \vee (j \neq b[i] \wedge b[b[i]] = b[i])$

$\equiv j = b[i] \vee (j \neq b[i] \wedge b[b[i]] = b[i])$

$\equiv j = b[i] \vee b[b[i]] = b[i]$

A continuación calculamos:

$wp(\text{"}b[i] := b[j]\text{"}, enrango(b, i)$ cand $dominio(b[i])$ cand $enrango(b, j)$ cand $(j = b[i] \vee b[b[i]] = b[i]))$

$\equiv enrango(b, j)$ cand $dominio(b[j])$ cand $enrango(b, i)$ cand $enrango((b; i : b[j]), i)$ cand $dominio(b[i])$ cand $enrango((b; i : b[j]), j)$ cand $(j = b[i] \vee b[b[i]] = b[i])^{b}_{(b;i:b[j])}$

$\equiv enrango(b, j)$ cand $dominio(b[j])$ cand $enrango(b, i)$ cand $enrango(b, i)$ cand $dominio(b[i])$ cand $enrango(b, i)$ cand $enrango(b, j)$ cand $(j = b[i] \vee b[b[i]] = b[i])^{b}_{(b;i:b[j])}$

$\equiv enrango(b, j)$ cand $dominio(b[j])$ cand $enrango(b, i)$ cand $dominio(b[i])$ cand $(j = b[i] \vee b[b[i]] = b[i])^{b}_{(b;i:b[j])}$

Desarrollando el último término obtenemos:

$(j = b[i] \vee b[b[i]] = b[i])^{b}_{(b;i:b[j])}$

$\equiv (j = (b; i : b[j])[i] \vee (b; i : b[j])[(b; i : b[j])[i]] = (b; i : b[j])[i])$

$\equiv (j = b[j] \vee (b; i : b[j])[b[j]] = b[j])$

$\equiv (j = b[j] \vee (i = b[j] \wedge b[j] = b[j]) \vee (i \neq b[j] \wedge b[b[j]] = b[j]))$

$\equiv (j = b[j] \vee i = b[j] \vee (i \neq b[j] \wedge b[b[j]] = b[j]))$

$\equiv (j = b[j] \vee i = b[j] \vee b[b[j]] = b[j])$

Con lo que nos queda como resultado final:

$enrango(b, j)$ cand $dominio(b[j])$ cand $enrango(b, i)$ cand $dominio(b[i])$
cand $(j = b[j] \vee i = b[j] \vee b[b[j]] = b[j])$