Notes on solutions to Exercise 4 Graph colouring

Compilers

Paul Kelly

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```
S1:    A = 100;
P1:
S2:    B = 200;
P2:
S3:    C = A + B;
P3:
S4:    D = A * 2;
P4:
S5:    E = B * 2;
P5:
S6:    F = D - C;
P6:
S7:    G = E + F;
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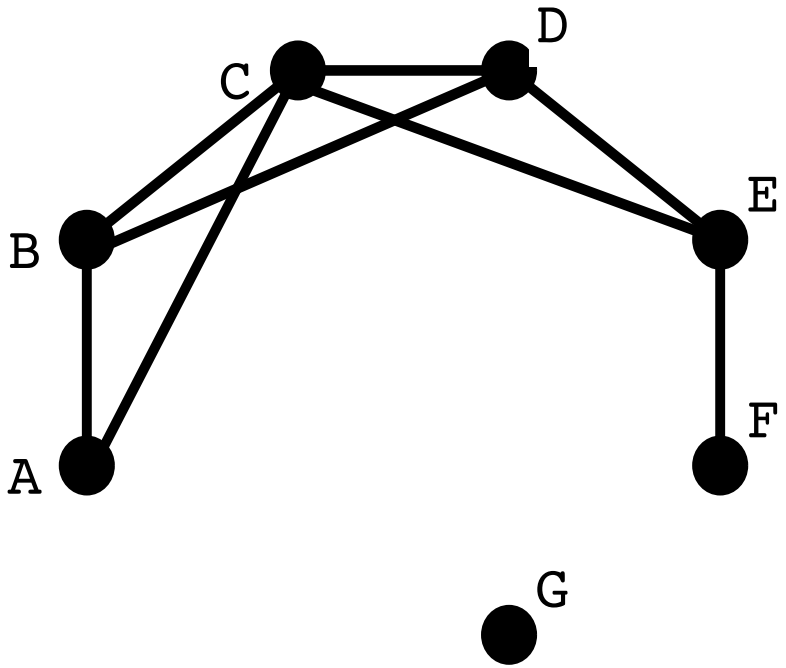

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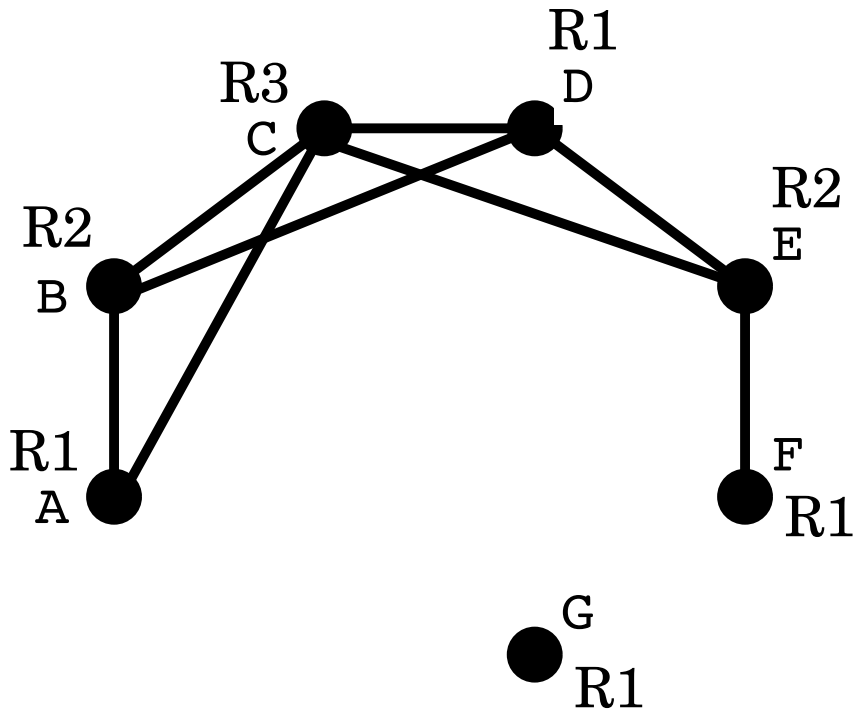

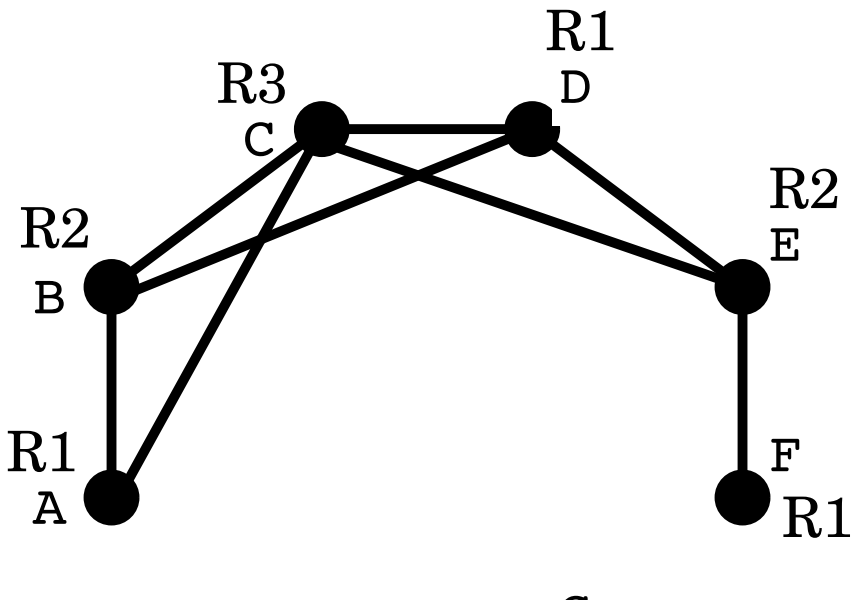

S1:	A = 100	R1 = 100
S2:	B = 200	R2 = 200
S3:	C = A + B	R3 = R1 + R2
S4:	D = A * 2	R1 = R1 * 2
S5:	E = B * 2	R2 = R2 * 2
S6:	F = D - C	R1 = R1 - R3
S7:	G = E + F	R1 = R2 + R1

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        t1 := size-1
        k := 0
L1:
        cmp k,t1
        bgt End
        t2 := Address(A)+i
        t3 := t2+k
        tmp := LoadIndirect(t3)
        t4 := Address(A)+j
        t5 := t4+k
        t6 := LoadIndirect(t5)
        StoreIndirect(t6, t3)
        StoreIndirect(tmp, t5)
        k := k+1
        jmp L1
End:
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j coexists with everything
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t2 coexists with t1 (and i,j,k but asked to ignore them).
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tmp coexists with t1,t3,t4,t5,t6
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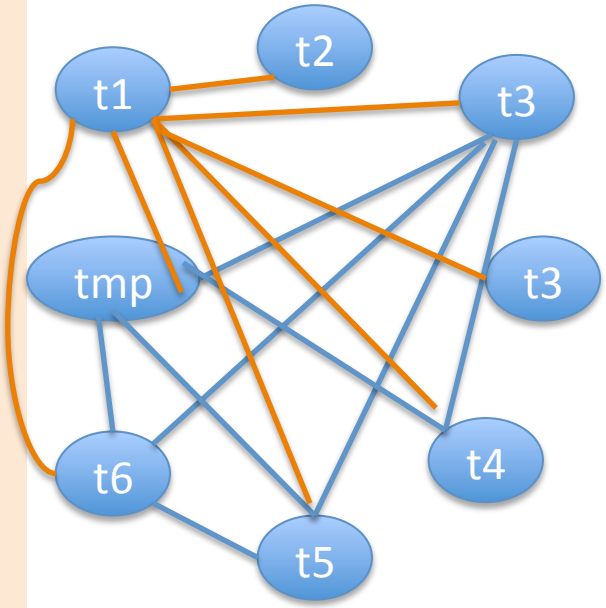

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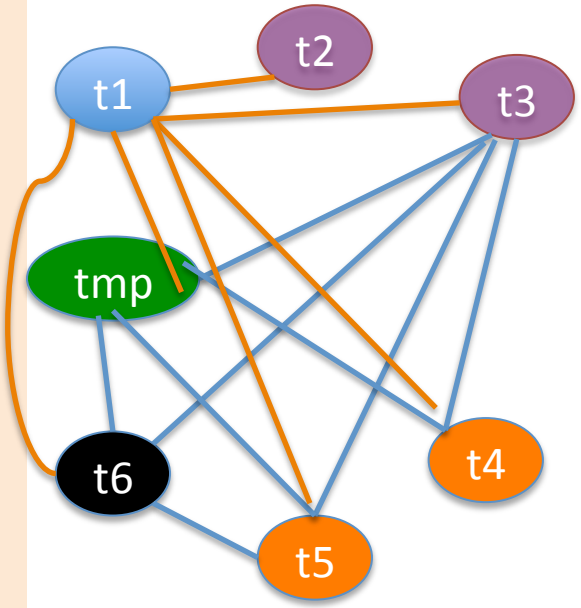

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R0: t1

R1: t2, t3

R2: t4,t5

R3: t6

R4: tmp