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Course: COP 4722

Assignment#: 2

Due: Thu, Oct 2, 2014

I hereby certify that this work is my own and none of it is the work of any other person.

Signature: _____

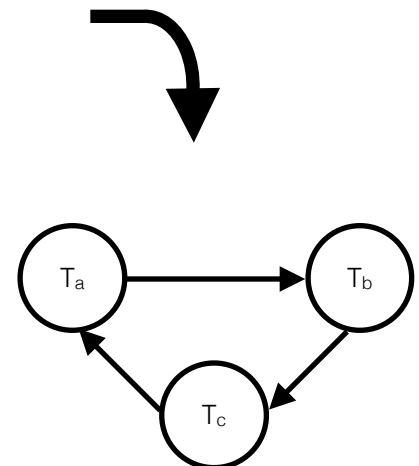
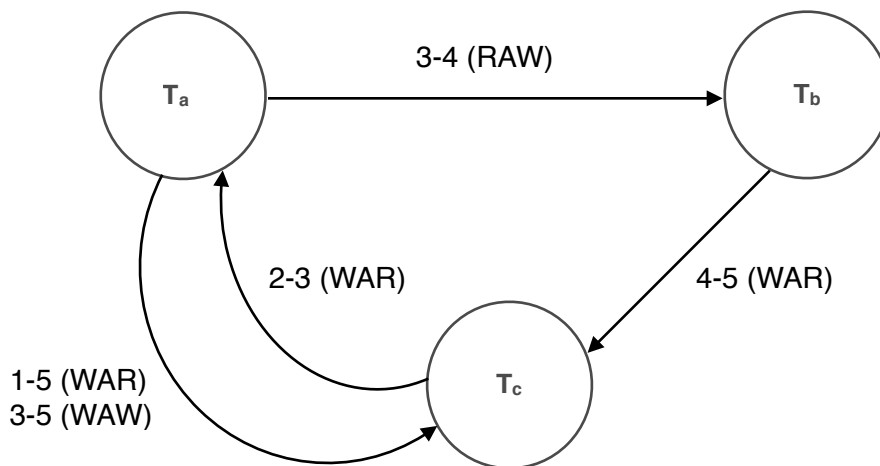
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I.

$S_1: r_a(x); r_c(x); w_a(x); r_b(x); w_c(x);$

#	T_a	T_b	T_c
1	r_a		
2			r_c
3	w_a		
4		r_b	
5			w_c

Legend:
WAR
RAW
WAW



The precedence graph has the following cycle/s:

$T_a \rightarrow T_b \rightarrow T_c \rightarrow T_a$

$T_a \rightarrow T_c \rightarrow T_a$

Therefore this schedule is **not conflict serializable**.

So, there is no conflict equivalent serial schedule for this schedule.

S₂: r_a(x); r_c(x); w_c(x); w_a(x); r_b(x);

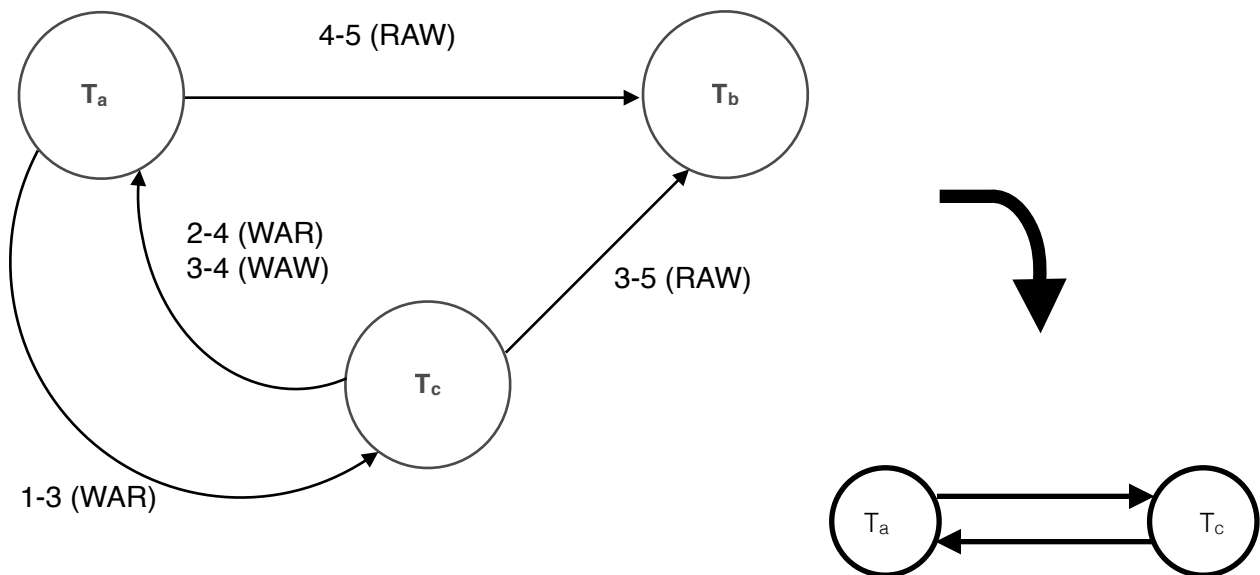
#	T _a	T _b	T _c
1	r _a		
2			r _c
3			w _c
4	w _a		
5		r _b	

Legend:

WAR

RAW

WAW



The precedence graph has the following cycle:

T_a → T_c → T_a

Therefore this schedule is **not conflict serializable**.

So, there is no conflict equivalent serial schedule for this schedule.

S₃: r_c(x); r_b(x); w_c(x); r_a(x); w_a(x);

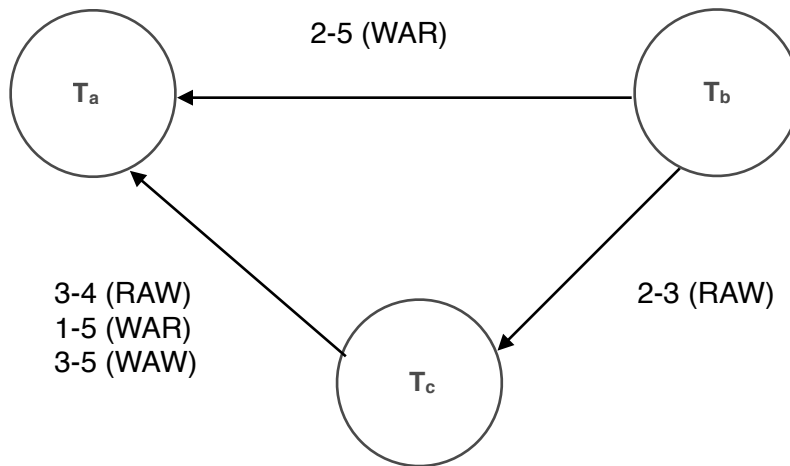
#	T _a	T _b	T _c
1			r _c
2		r _b	
3			w _c
4	r _a		
5	w _a		

Legend:

WAR

RAW

WAW



Since the precedence graph has no cycle, this schedule is **conflict serializable**.

So, the conflict equivalent serial schedule for this schedule is:

T_b → T_c → T_a

Serial Schedule for S₃:

#	T _a	T _b	T _c
1		r _b	
2			r _c
3			w _c
4	r _a		
5	w _a		

S₄: r_c(x); r_b(x); r_a(x); w_c(x); w_a(x);

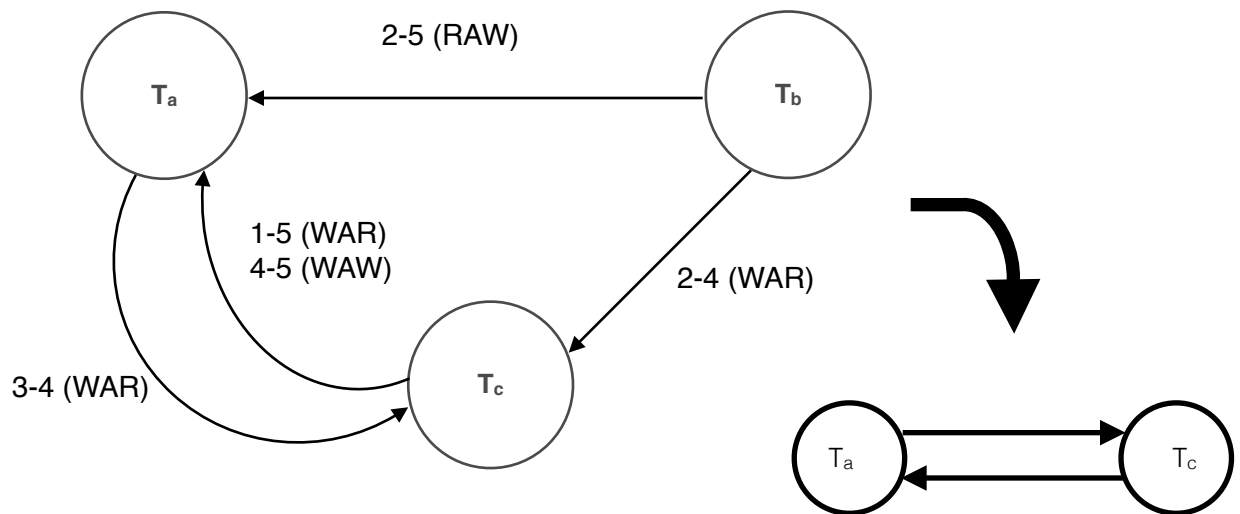
#	T _a	T _b	T _c
1			r _c
2		r _b	
3	r _a		
4			w _c
5	w _a		

Legend:

WAR

RAW

WAW



The precedence graph has the following cycle:

T_a → T_c → T_a

Therefore this schedule is **not conflict serializable**.

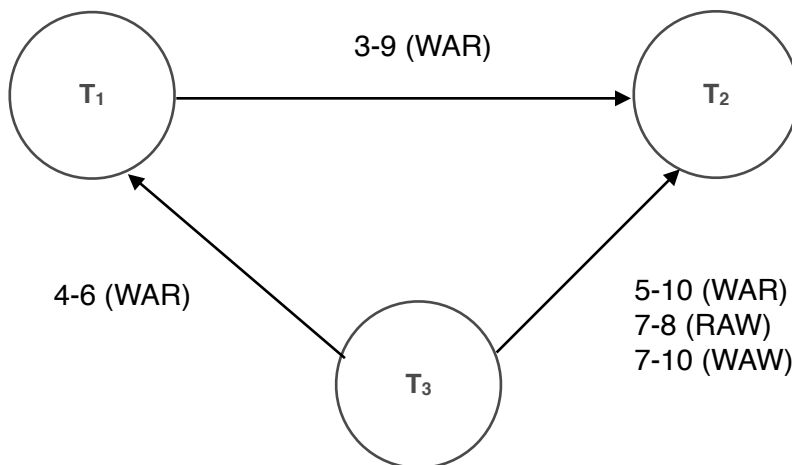
So, there is no conflict equivalent serial schedule for this schedule.

II.

S₅: r₁(p); r₂(r); r₁(r); r₃(p); r₃(q); w₁(p); w₃(q); r₂(q); w₂(r); w₂(q);

#	T ₁	T ₂	T ₃
1	r ₁		
2		r ₂	
3	r ₁		
4			r ₃
5			r ₃
6	w ₁		
7			
8		r ₂	
9		w ₂	
10		w ₂	

Legend:
 WAR
 RAW
 WAW



Since the precedence graph has no cycle, this schedule is **conflict serializable**.

So, the conflict equivalent serial schedule for this schedule is:

T₃ → T₁ → T₂

Serial Schedule for S₅:

T₃ → T₁ → T₂

#	T ₁	T ₂	T ₃
1			r ₃
2			r ₃
3			w ₃
4	r ₁		
5	r ₁		
6	w ₁		
7		r ₂	
8		r ₂	
9		w ₂	
10		w ₂	

Legend:

WAR

RAW

WAW

S₆: r₁(p); r₂(r); r₃(p); r₁(r); r₂(q); r₃(q); w₁(p); w₂(r); w₃(q); w₂(q);

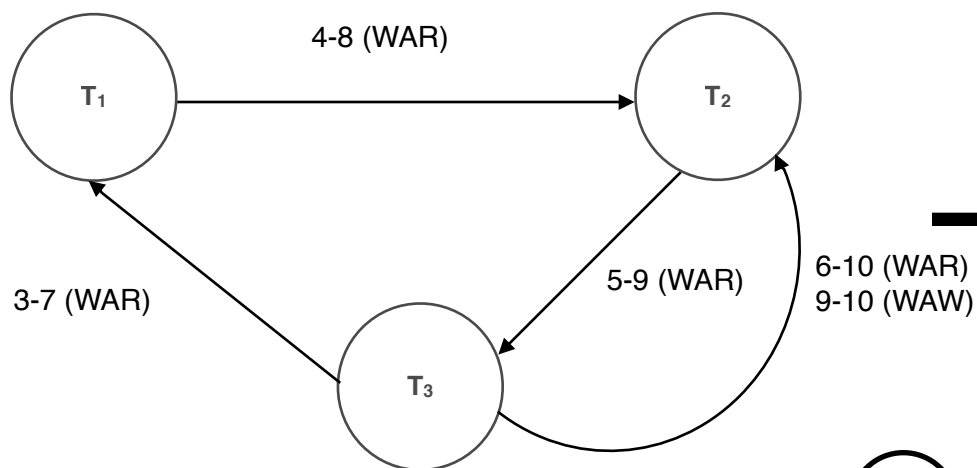
#	T ₁	T ₂	T ₃
1	r ₁		
2		r ₂	
3			r ₃
4	r ₁		
5		r ₂	
6			r ₃
7	w ₁		
8		w ₂	
9			w ₃
10		w ₂	

Legend:

WAR

RAW

WAW



The precedence graph has the following cycle:

T₁ → T₂ → T₃ → T₁

Therefore this schedule is **not conflict serializable**.

So, there is no conflict equivalent serial schedule for this schedule.

