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Panther-ID: x x x - 0534

Course: COP 4722

Assignment#: 2

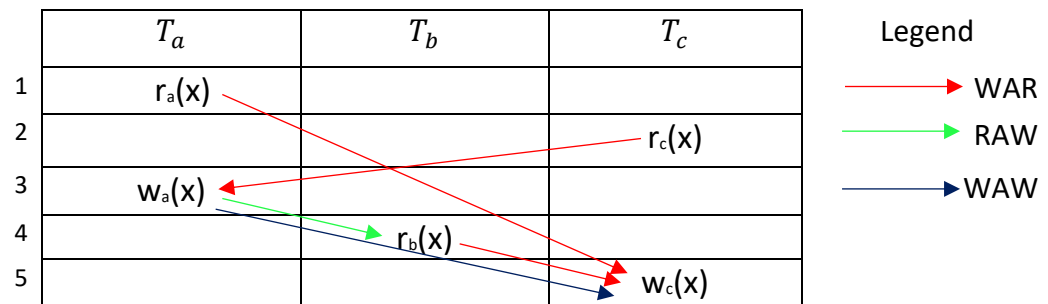
Due: Wed, Feb 21, 2018

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

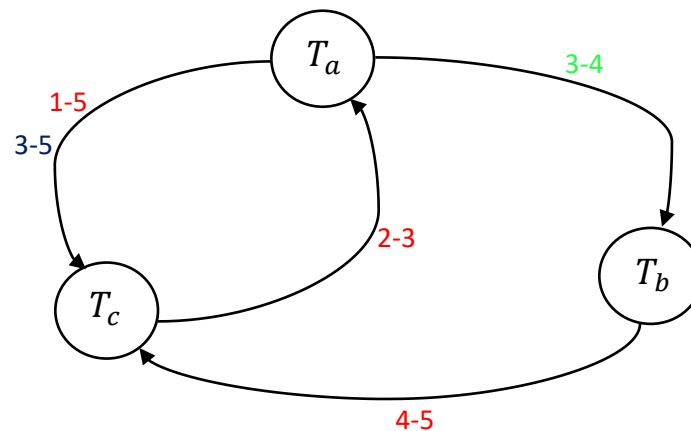
Signature: _____

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



Conflict Precedence Graph:



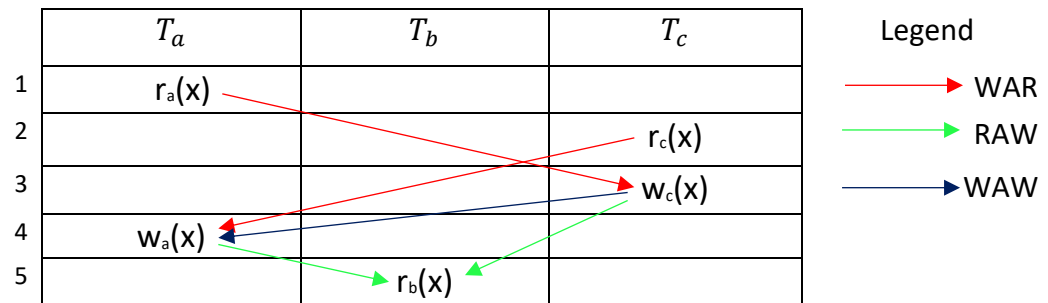
Since the precedence graph has the following cycles:

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

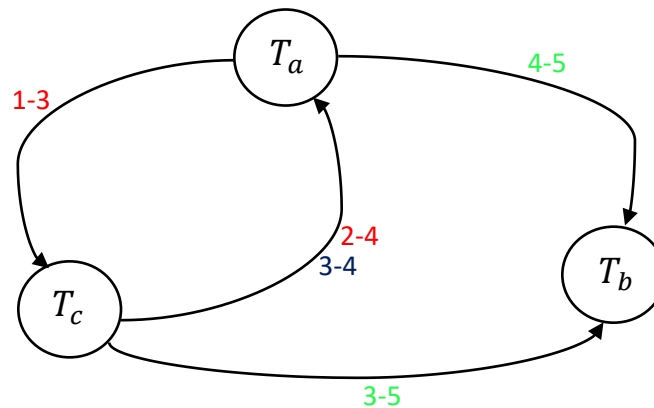
$$T_c \rightarrow T_a \rightarrow T_c$$

this schedule is not conflict serializable. So, there is no conflict equivalent serial schedule for this schedule.

S_2 : $r_a(x)$; $r_c(x)$; $w_c(x)$; $w_a(x)$; $r_b(x)$;



Conflict Precedence Graph:

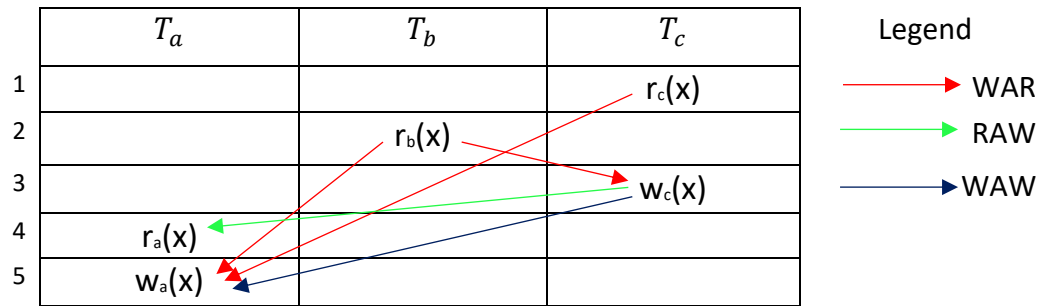


Since the precedence graph has the following cycle:

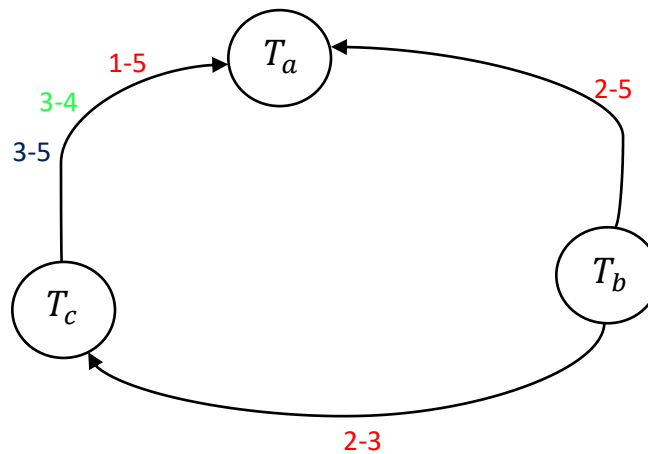
$$T_a \rightarrow T_c \rightarrow T_a$$

this schedule is not conflict serializable. So, there is no conflict equivalent serial schedule for this schedule.

$S_3: r_c(x); r_b(x); w_c(x); r_a(x); w_a(x);$



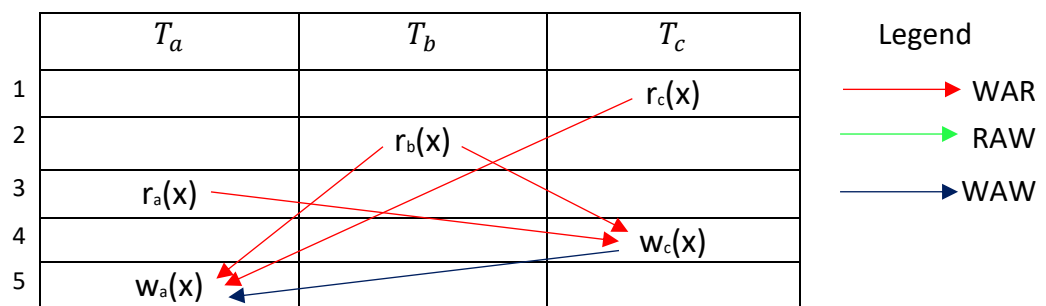
Conflict Precedence Graph:



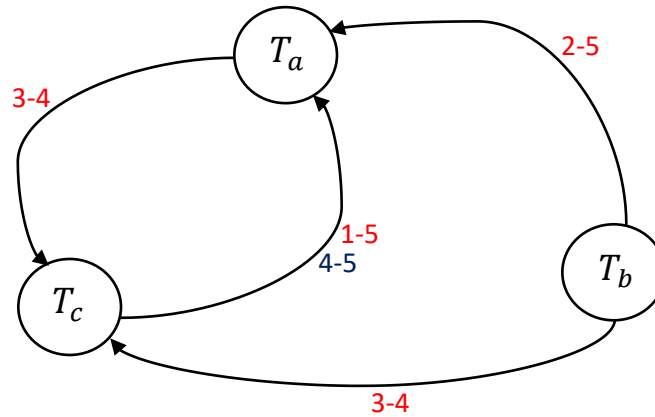
Since the precedence graph has no cycle this schedule is conflict serializable. So, the conflict equivalent serial schedule for this schedule is:

$$T_b \rightarrow T_c \rightarrow T_a$$

$S_4: r_c(x); r_b(x); r_a(x); w_c(x); w_a(x);$



Conflict Precedence Graph:



Since the precedence graph has the following cycle:

$$T_a \rightarrow T_c \rightarrow T_a$$

this schedule is not conflict serializable. So, there is no conflict equivalent serial schedule for this schedule.

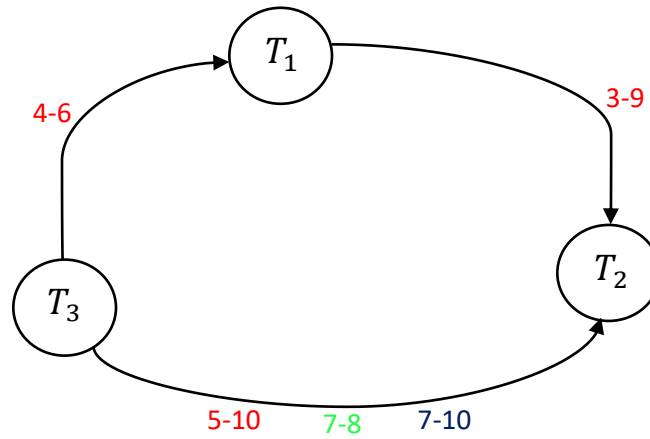
S_5 : $r_1(p)$; $r_2(r)$; $r_1(r)$; $r_3(p)$; $r_3(q)$; $w_1(p)$; $w_3(q)$; $r_2(q)$; $w_2(r)$; $w_2(q)$;

	T_1	T_2	T_3
1	$r_1(p)$		
2		$r_2(r)$	
3	$r_1(r)$		
4			$r_3(p)$
5			$r_3(q)$
6	$w_1(p)$		
7			$w_3(q)$
8		$r_2(q)$	
9		$w_2(r)$	
10		$w_2(q)$	

Legend

- WAR
- RAW
- WAW

Conflict Precedence Graph:



Since the precedence graph has no cycle this schedule is conflict serializable. So, the conflict equivalent serial schedule for this schedule is:

$$T_3 \rightarrow T_1 \rightarrow T_2$$

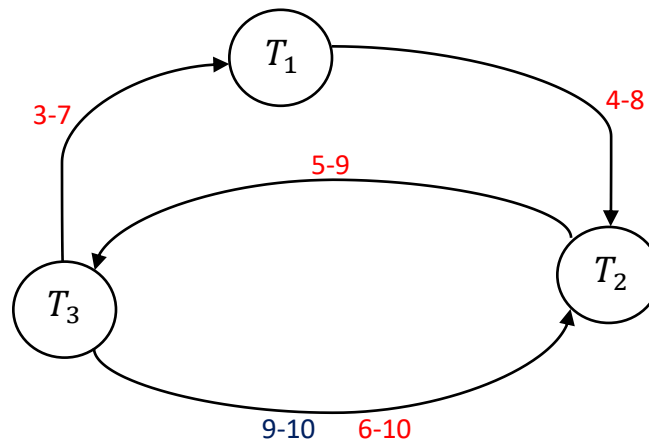
S_6 : $r_1(p)$; $r_2(r)$; $r_3(p)$; $r_1(r)$; $r_2(q)$; $r_3(q)$; $w_1(p)$; $w_2(r)$; $w_3(q)$; $w_2(q)$;

	T_1	T_2	T_3	
1	$r_1(p)$			
2		$r_2(r)$		
3			$r_3(p)$	
4	$r_1(r)$			
5		$r_2(q)$		
6			$r_3(q)$	
7	$w_1(p)$			
8		$w_2(r)$		
9			$w_3(q)$	
10		$w_2(q)$		

Legend

- WAR
- RAW
- WAW

Conflict Precedence Graph:



Since the precedence graph has the following cycles:

$$\begin{aligned} T_1 &\rightarrow T_2 \rightarrow T_3 \rightarrow T_1 \\ T_2 &\rightarrow T_3 \rightarrow T_2 \end{aligned}$$

this schedule is not conflict serializable. So, there is no conflict equivalent serial schedule for this schedule.