

Nama : **Tri Kurnia Sari**
 Nim : **09021281520105**
 Mata Kuliah : **Sistem Basis Data Terdistribusi (SBDT)**

Soal 1

Tanpa Protokol

T ₁	T ₂
	begin transaction T ₂
begin transaction T ₁	begin transaction T ₂ ^B
begin transaction T ₁ ^C	read (y)
read (z)	y = y - 500
z = z - 300	write (y)
write (z)	commit T ₂ ^B
commit T ₁ ^C	begin transaction T ₂ ^A
begin transaction T ₁ ^A	read (x)
read (x)	x = x + 500
x = x + 300	write (x)
write (x)	commit T ₂ ^A
commit T ₁ ^A	commit T ₂
commit T ₁	

Protokol 2 PL

T ₁	T ₂
	begin transaction T ₂
begin transaction T ₁	begin transaction T ₂ ^B
begin transaction T ₁ ^C	write_lock (y)
write_lock (z)	read (y)
read (z)	y = y - 500
z = z - 300	write (y)
write (z)	unlock (y)
unlock (z)	commit T ₂ ^B
commit T ₁ ^C	begin transaction T ₂ ^A
begin transaction T ₁ ^A	write_lock (x)
write_lock (x)	read (x)
wait	x = x + 500
wait	write (x)
wait	unlock (x)
read (x)	commit T ₂ ^A
x = x + 300	commit T ₂
write (x)	
unlock (x)	
commit T ₁ ^A	
commit T ₁	

Soal 2

Tanpa Protokol

T1	T2
begin transaction T_1	
begin transaction T_1^A	begin transaction T_2
read (x)	begin transaction T_2^A
$x = x + 400$	read (x)
write (x)	sum = x
commit T_1^A	commit T_2^A
begin transaction T_1^C	begin transaction T_2^B
read (z)	read (y)
$z = z - 400$	sum = sum + y
write (z)	commit T_2^B
commit T_1^C	begin transaction T_2^C
commit T_1	read (z)
	sum = sum + z
	commit T_2^C
	commit T_1

Protokol 2 PL

T1	T2
begin transaction T ₁	
begin transaction T ₁ ^A	begin transaction T ₂
write_lock (x)	begin transaction T ₂ ^A
read (x)	read_lock (x)
x = x + 400	wait
write (x)	wait
unlock (x)	read (x)
commit T ₁ ^A	sum = x
begin transaction T ₁ ^C	unlock (x)
write_lock (z)	commit T ₂ ^A
read (z)	begin transaction T ₂ ^B
z = z - 400	read_lock (y)
write (z)	read (y)
unlock (z)	sum = sum + y
commit T ₁ ^C	unlock (y)
commit T ₁	commit T ₂ ^B
	begin transaction T ₂ ^C
	read_lock (z)
	read (z)
	sum = sum + z
	unlock (z)
	commit T ₂ ^C
	commit T ₂

Soal 3

Tanpa Protokol

T1	T2
begin transaction T ₁	
begin transaction T ₁ ^A	
read (x)	
x = x + 300	begin transaction T ₂
write (x)	begin transaction T ₂ ^A
commit T ₁ ^A	read (x)
begin transaction T ₁ ^B	sum = x
read (y)	commit T ₂ ^A
y = y + 400	begin transaction T ₂ ^B
write (y)	read (y)
commit T ₁ ^B	sum = sum + y
begin transaction T ₁ ^C	commit T ₂ ^B
read (z)	begin transaction T ₂ ^C
z = z - 700	read (z)
write (z)	sum = sum + z
commit T ₁ ^C	commit T ₂ ^C
commit T ₁	commit T ₂

Protokol 2 PL

T1	T2
begin transaction T ₁	
begin transaction T ₁ ^A	
write_lock (x)	
read (x)	begin transaction T ₂
x = x + 300	begin transaction T ₂ ^A
write (x)	read_lock (x)
unlock (x)	read (x)
commit T ₁ ^A	sum = x
begin transaction T ₁ ^B	unlock (x)
write_lock (y)	commit T ₂ ^A
read (y)	begin transaction T ₂ ^B
y = y + 400	read_lock (y)
write (y)	wait
unlock (y)	read (y)
commit T ₁ ^B	sum = sum + y
begin transaction T ₁ ^C	unlock (y)
write_lock (z)	commit T ₂ ^B
read (z)	begin transaction T ₂ ^C
z = z - 700	read_lock (z)
write (z)	wait
unlock (z)	read (z)
commit T ₁ ^C	sum = sum + z
commit T ₁	unlock (z)
	commit T ₂ ^C
	commit T ₂