



The University of Lahore
Faculty of Information Technology

Assignment Cover Letter
(Individual Work)

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SAP ID	70082385	Title of Assignment	03
Course Code	CS 11303	Due Date	16/10/2022
Course Name	Operating Systems	Submission Date	10/11/2022
Section	T		

The assignment should meet the below requirements:

- 1- Assignment (hard copy) is required to be submitted on clean paper and soft copy as per lecturer's instructions.
- 2- Soft copy assignment also requires the signed (hardcopy) submission of this form, which automatically validates the softcopy submission.
- 3- The above information is complete and legible.
- 4- Compiles pages are firmly attached.
- 5- Assignment has been copied (softcopy & hardcopy) for each student ahead of the submission.

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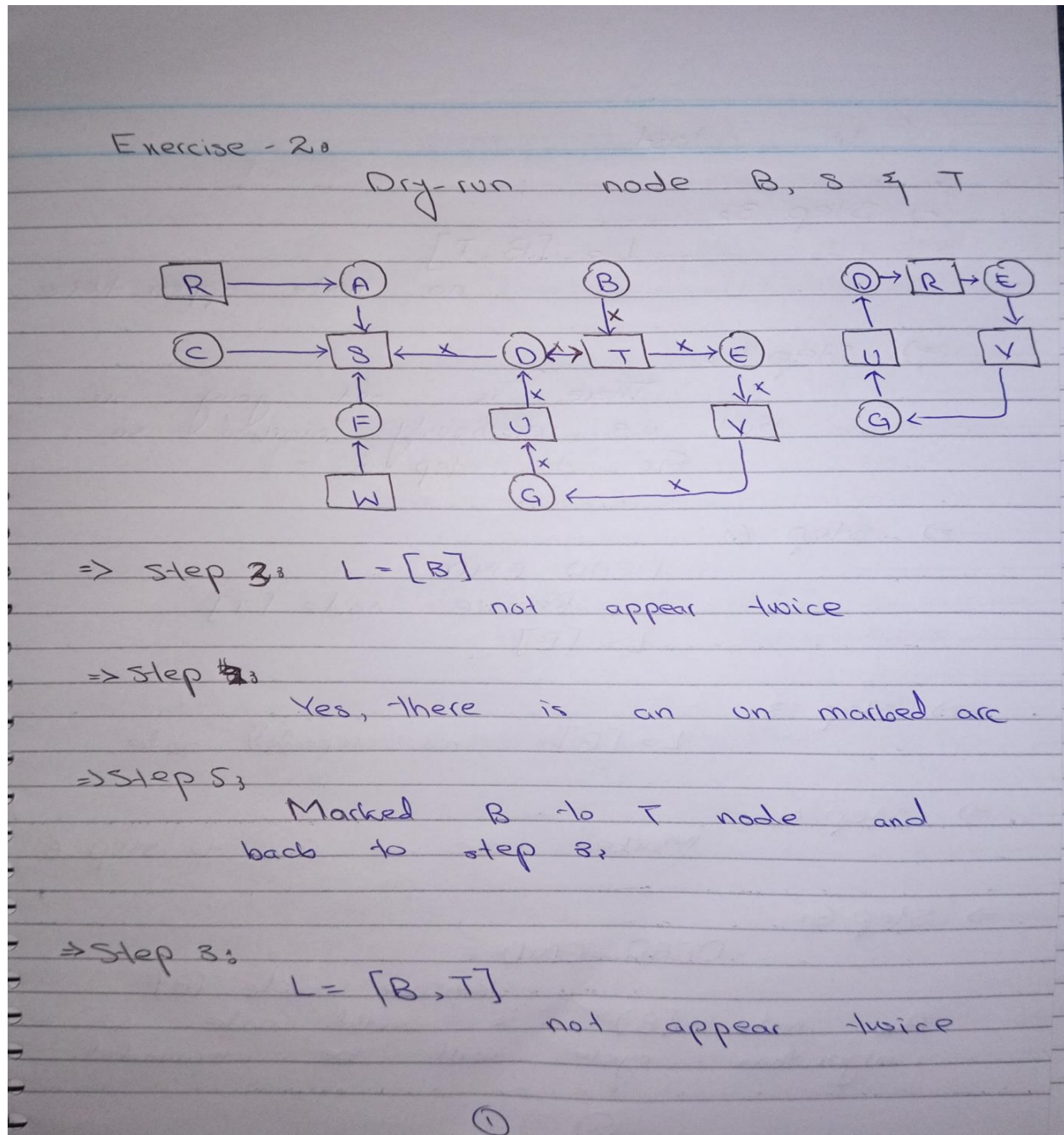
I hereby declare that this work represents my own effort, and that all text and code have been written by me and has not been submitted for the use of assessment in another course or class, except where this has been notified and accepted in advance.

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EXERCISE-2

Dry run deadlock detection algorithm (STEP 1- 6) for a resource allocation graph for a node B, S and T and detect deadlock exists or not?

NOTE: The file is already uploaded on SLATE.



⇒ step 4:

Yes, there is unmarked arc
b/w T to E

⇒ step 5:

Marked T to E node and
back to step 3:

$L = [B, T, E]$

⇒ step 3:

$L = [B, T, E]$

⇒ step 4:

Yes, there is unmarked
arc b/w E to Y:

⇒ step 5:

Marked E to Y node and
back to step 3:

$L = [B, T, E, Y]$

And these step goes on and
the last node will be

$L = [B, T, E, Y, G, U, D, S]$

$L = [B, T, E, V, G, U, D, S]$

→ Step 4:

No, there is no ~~unmarked~~
outgoing arc from S. Go to step 6.

⇒ Step 6:

DEAD END

Remove [S] node.

Back to step 3.

⇒ Step 3:

$L = [B, T, E, V, G, U, D]$

no node appear twice.

→ Step 4:

The previously marked arc
from U to D.
Go to step 6.

⇒ Step 6:

DEAD END

Remove node [D]

$L = [B, T, E, V, G, U]$

And the goes on like this

In last

⇒ Step 3:

$L = [B, T]$

no node appear twice

⇒ Step 4:

There is out going arc
but we previously marked so
Go to step 6.

⇒ Step 6:

DEAD END

Remove node [T]

$L = [B]$

⇒ Step 3:

$L = [B]$

no repeated node

⇒ Step 4:

Marked arc — Go to step 6

⇒ Step 6:

DEAD END

Remove node [B]

As node [B] is initial node so
algorithm cycle will be terminated.

④

⇒ Dry-run node [s]

⇒ step 2:

$L = [s]$

⇒ step 3:

$L = [s]$ not appear twice

⇒ step 4:

There is no outgoing arc
from node [s]

So Go to step 6:

step 6:

DEAD END -

The node [s] is a initial
node so the algorithm will
be terminate.

Dig-ron of node T_1

Step 2:

$L = [T]$

Step 3:

$L = [T]$ not appear twice

Step 4:

Yes, there is unmarked arc from T to E .

Step 5:

Marked the arc from T to E and back to step 3.

Step 3:

$L = [T, E]$ not repeat

Step 4:

Yes, there is no arc b/w E to V

Step 5:

Marked arc E, V and move to step 2.

So this are goes on on last.

(6)

Step 3:

$L = [T, E, V, G, U, D, S]$

Step 4:

There is no outgoing are
more to step 6.

Step 6:

DEAD END

Remove node [S]

Go to step 3.

So this goes like this
in last

Step 3:

$L = [T]$

no repeated twice

Step 4:

There is no outgoing marched
Go to step 6.

Step 6:

DEAD END

This is initial node [T]

so the algorithm
terminated.

(7)