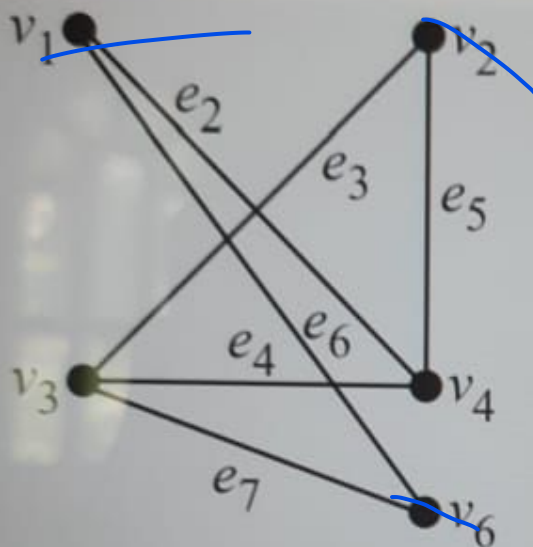




# Online Exams

Sri Lanka Institute of Information Technology

Consider the following graph.



Determine whether the above graph has the followings.

Hamilton Path

Choose...

yes

Hamilton Circuit

Choose...

yes

Euler Path

Yes

yes

Euler Circuit

Choose...

No



# Online Exams

Sri Lanka Institute of Information Technology

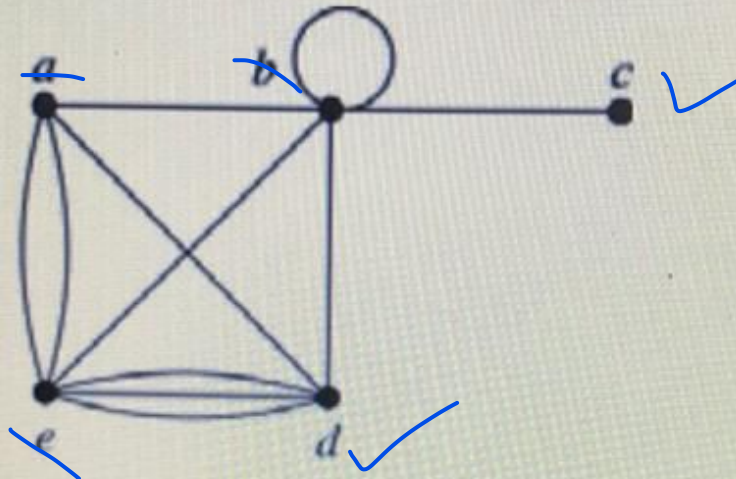
## Question 6

Not yet answered

Marked out of 4.00

Flag question

Consider the following graph.



Determine whether the above graph has the followings.

Hamilton Path

Yes

yes

Hamilton Circuit

No

No

Euler Path

Yes

yes

Euler Circuit

No

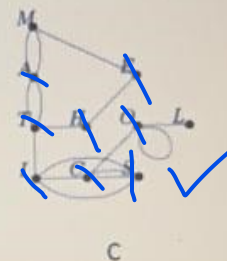
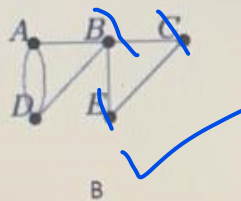
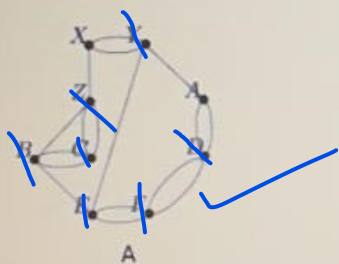
no



NetExam

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Which of these graphs **do not** have Euler Paths?  
(Hint: A theorem for Euler paths can be used.)



Select one:

- ☐ A only
- ☐ B only
- ☐ C only
- ☐ All graphs
- ☒ None of the above

*All have e. paths*





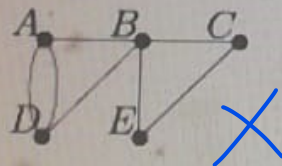
5

answered

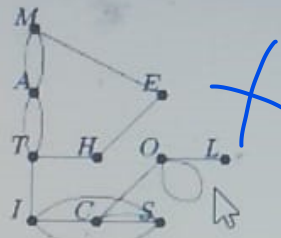
1 out of

question

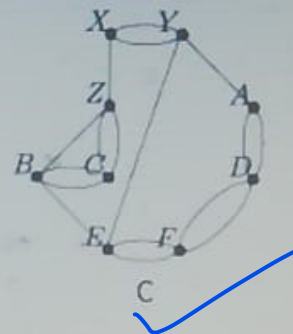
Which of these graphs have Hamiltonian Circuits?



A



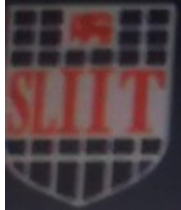
B



C

Select one:

- ☐ A only
- ☐ B only
- ☒ C only
- ☐ All graphs
- ☐ None of the above



# NetExam

Sri Lanka Institute of Information Technology

How many permutations of 3 **different** digits are there, chosen from the ten digits 0 to 9 inclusive?

Select one:

- ☐ 84
- ☐ 120
- ☐ 504
- ☒ 720
- ☐ None of the above

$$p = \frac{n!}{(n-r)!}$$



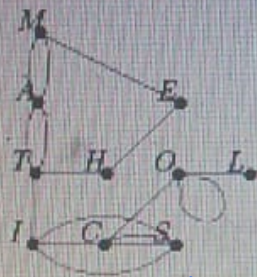
Question 4

Not yet answered

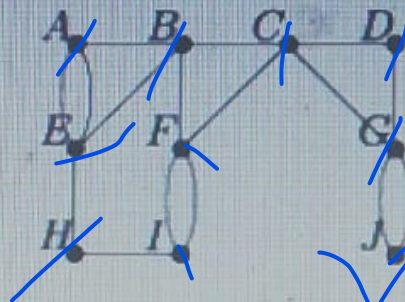
Marked out of 1.00

Flag question

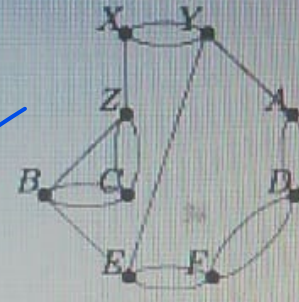
Which of these graphs have Hamiltonian Paths?



A



B



C

Select one:

- ☐ A only
- ☐ A and B only
- ☐ B and C only
- ☒ All graphs
- ☐ None of the above

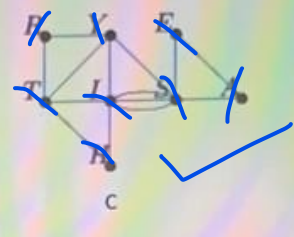
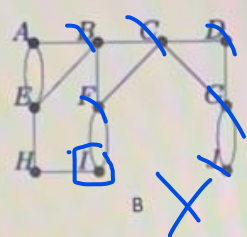
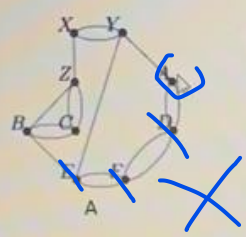




# NetExam

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Which of these do not have Euler Circuits?



Select one:

- ☒ A and B only
- ☐ B and C only
- ☐ A and C only
- ☐ All graphs
- ☐ None of the above

NetExam

Sri Lanka Institute of Information Technology

In how many ways can you select a group of 9 dogs out of 12 different dogs?

Select one:

- ☐ 202
- ☒ 220
- ☐ 1320
- ☐ 108
- ☐ None of the above

C





# NetExam

Sri Lanka Institute of Information Technology

In how many ways can you select a group of 9 dogs out of 12 different dogs?

Select one:

- ☐ 202
- ☒ 220
- ☐ 1320
- ☐ 108
- ☐ None of the above

C



# NetExam

Sri Lanka Institute of Information Technology

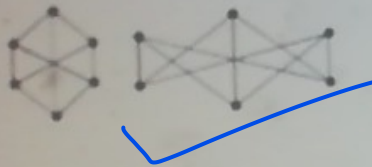
8

answered

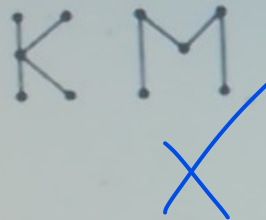
out of

question

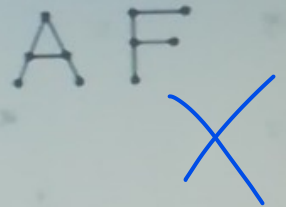
Which of the following pairs are non isomorphic?



A



B



C

Select one:

- ☐ A and B only
- ☒ B and C only
- ☐ A and C only
- ☐ All are non isomorphic
- ☐ None of the above

Next page



# NetExam

Sri Lanka Institute of Information Technology

The sum of the first 16 terms of an Arithmetic Progressions whose first term and third term are 5 and 1

Select one:

- ☐ 600
- ☐ 640
- ☐ 680
- ☐ 690
- ☐ None of the above





answered  
out of  
question

Given item A, which of the following would be the value of item B?

Item A:  $\sum_{n=1}^5 a_n = 30$

Item B:  $\sum_{n=1}^5 3a_n - 2$

Select one:

- ☐ 90
- ☐ 78
- ☐ 28
- ☒ 88
- ☐ None of the above



# NetExam

Sri Lanka Institute of Information Technology

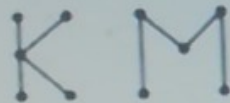
8

answered  
out of  
question

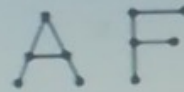
Which of the following pairs are non isomorphic?



A



B



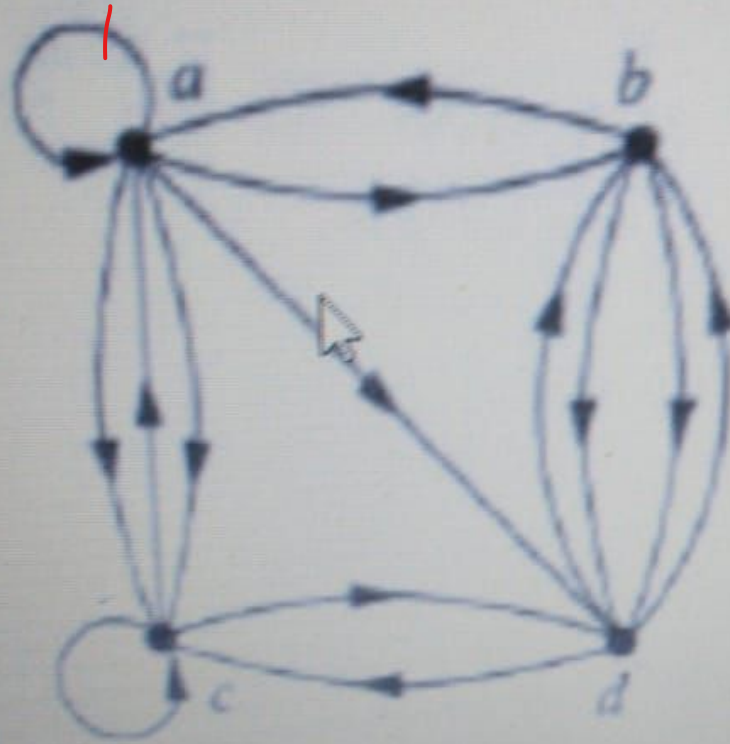
C

Select one:

- ☐ A and B only
- ☐ B and C only
- ☒ A and C only
- ☐ All are non isomorphic
- ☐ None of the above

Next page

Consider the following Directed G



Number of Edges = :

14

Total Indegree = :

17

Total Outdegree = :

14



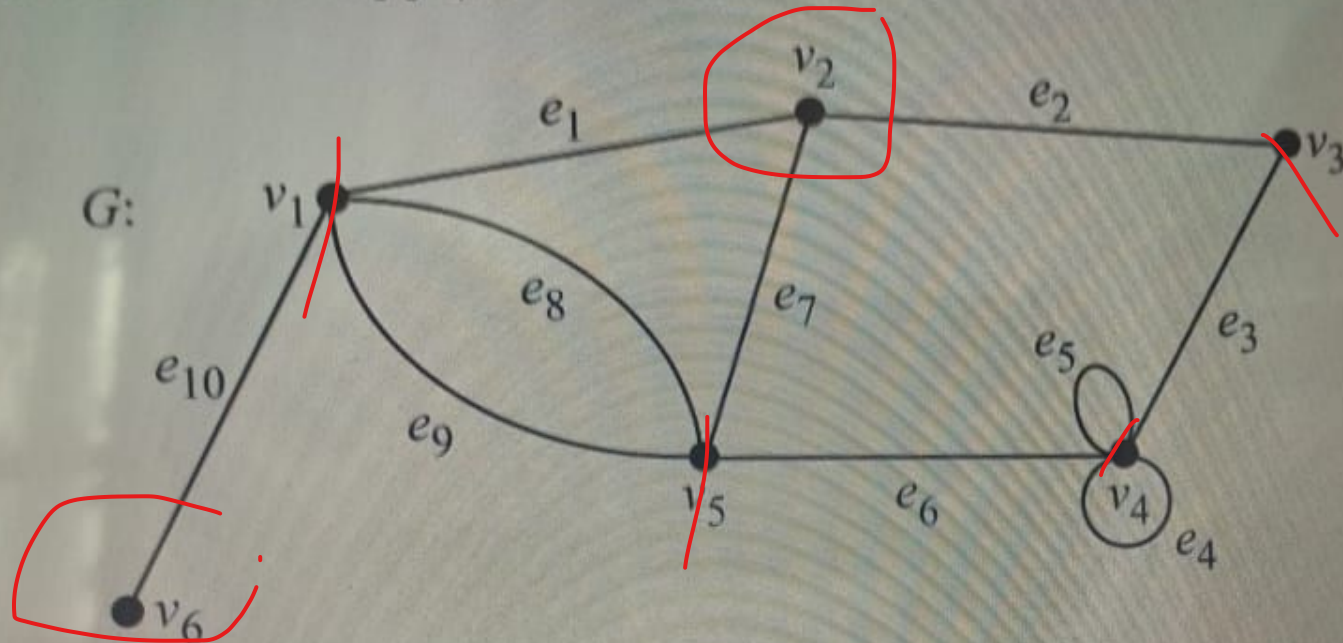
Question 6

Not yet answered

Marked out of 4.00

Flag question

Consider the following graph.



Determine whether the above graph has the followings.

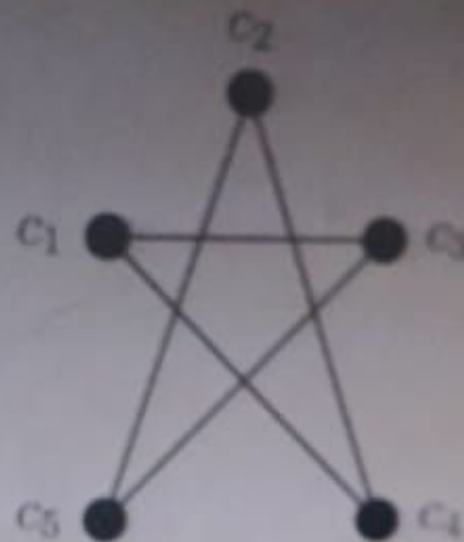
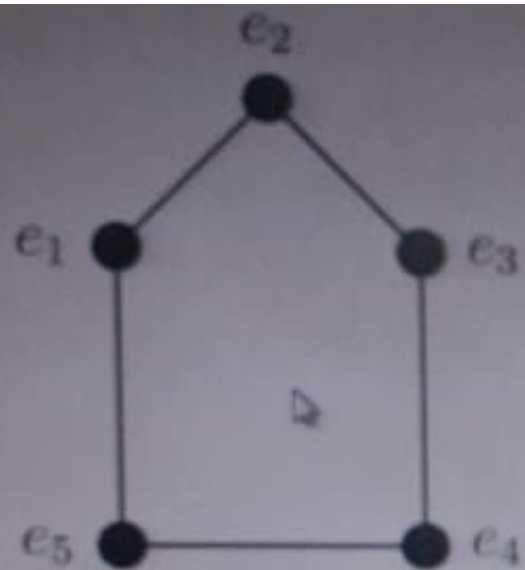
- Hamilton Path  **yes**  
 Hamilton Circuit  **no**  
 Euler Path  **yes**  
 Euler Circuit  **no**

Quiz navigation

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33

Finish attempt

Time left 1:05:31



Select one:

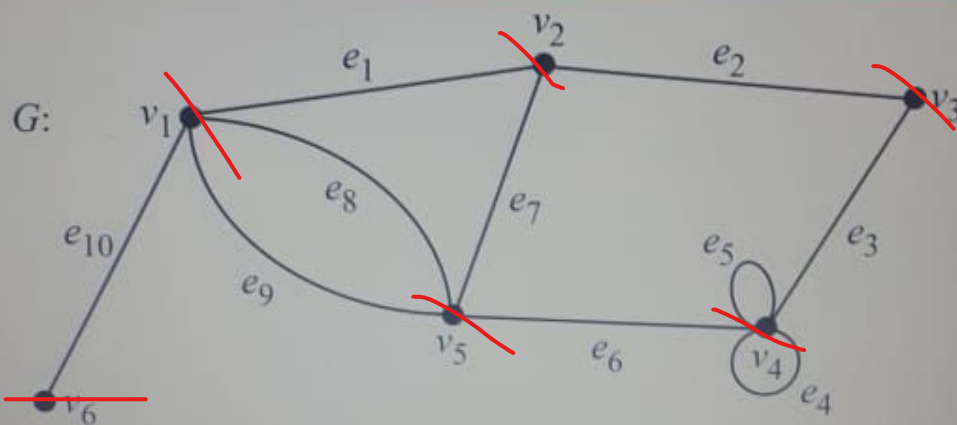
- ☒ Two graphs are isomorphic
- ☐ Two graphs are not isomorphic
- ☐ The two graphs have different degree sequences
- ☐ None of the above

Quiz navigation

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

Questions attempted

Time left 1:00:18



Determine whether the above graph has the followings.

- |                  |             |     |
|------------------|-------------|-----|
| Hamilton Path    | Choose... ▾ | yes |
| Hamilton Circuit | Choose... ▾ | no  |
| Euler Path       | Choose... ▾ | yes |
| Euler Circuit    | Choose... ▾ | no  |

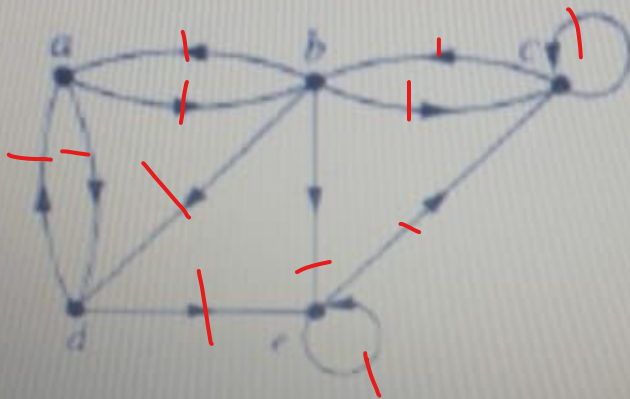




# Online Exams

Sri Lanka Institute of Information Technology

Consider the following Directed Graph.

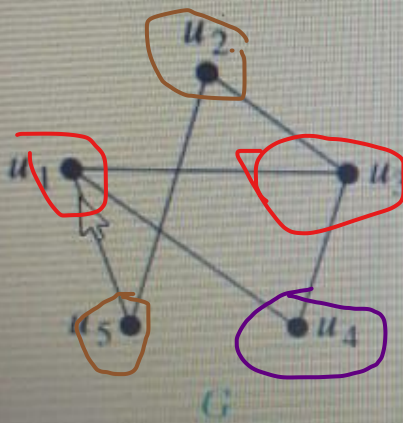


Number of Edges = : 12

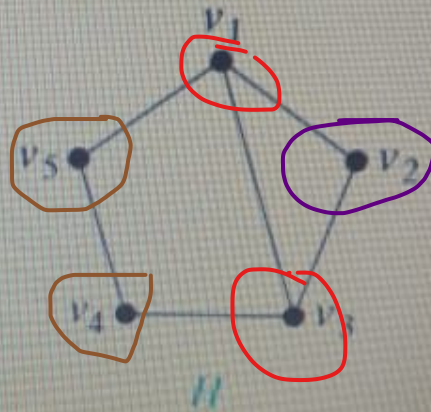
Total Indegree = 12

Total Outdegree = : 12

What is the correct statement about the following 2



2 2 2 3 3



2 2 2 3 3

Select one:

- ☒ Two graphs are isomorphic
- ☐ Two graphs are not isomorphic
- ☐ The two graphs have different degree sequences
- ☐ None of the above



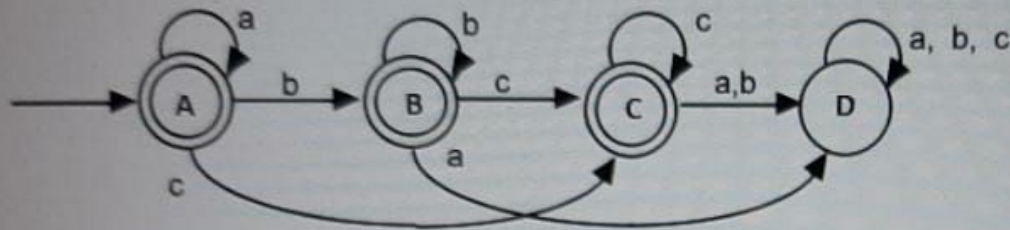
Question 1

Not yet answered

Marked out of 4.00

Flag question

Consider the following finite state Machine A.



What is the initial State?

Choose... ▼

To what state does A go if abcacbac input to A in sequence starting from the initial state?

Choose... ▼

Find  $N(C, a)$

Choose... ▼

Find  $N(D, b)$

Choose... ▼

Quiz navigation

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32			

Finish attempt ...

Time left 1:59:30

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# Online Exams

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Question 1

Not yet answered

Marked out of 10

Flag question

Consider the following degree sequence.

6, 4, 2, 0

a b c d

Is it possible to draw a graph with the above degree sequence?

Yes

yes

Does this graph have an Euler Path?

no

No

Does this graph have an Euler circuit?

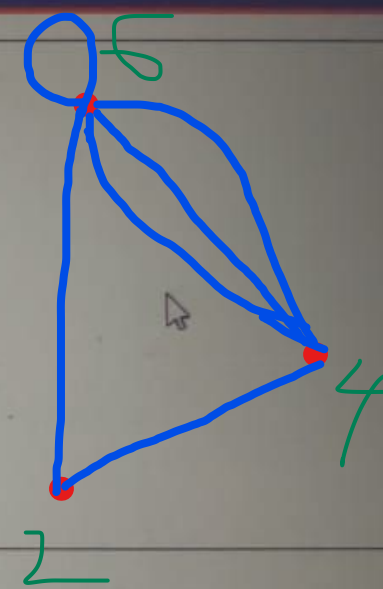
yes

Yes

How many edges are in the above graph?

6

6



Next page

Quiz

1	2
8	9
15	16
22	23
29	30

Finish at

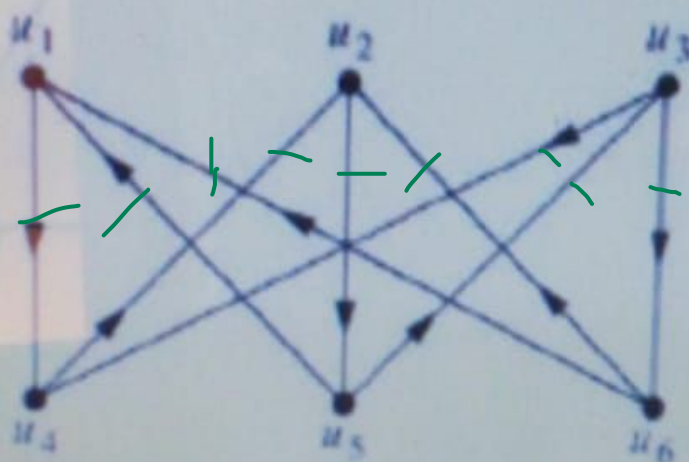
Time left



# Online Exams

Sri Lanka Institute of Information Technology

Consider the following Directed Graph.



Number of Edges = : 9

Total Indegree = : 9

Total Outdegree = : 9

✓  
C.V. ✓

Consider the following degree sequence.

7, 6, 5, 4, 4, 2, 2

Is it possible to draw a graph with the above degree sequence? No yes

Does this graph have an Euler Path? yes Choose...

Does this graph have an Euler circuit? no Choose...

How many edges are in the above graph? 15 Choose...



Consider the following system of linear equations.

$$2x - 4y = -10$$

$$3x - 5y = -11$$

Represent the above equations in  $A\underline{x} = \underline{b}$  form.

Find  $|A|$ .

Find  $\text{adj } A$

Let  $\text{adj } A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$

Find  $x$  and  $y$ .

Answer for  $|A|$

Answer for  $a$

Answer for  $b$

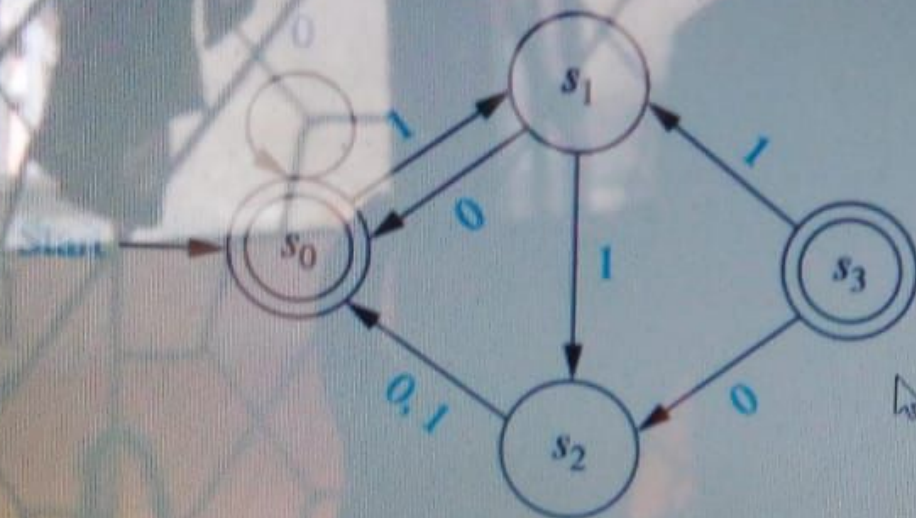
Answer for  $c$

Answer for  $d$

Answer for  $x$

Answer for  $y$

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 100101001 input to A in sequence starting from the initial state?

Find  $N(s_1, 0)$

Find  $N(s_2, 0)$

Choose...

Choose...

$s_0$

$s_1$

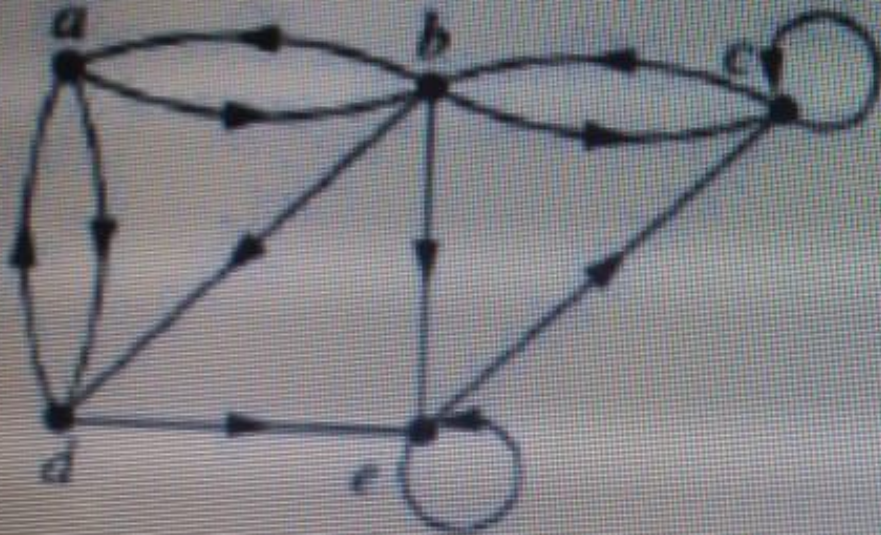
$s_3$

$s_2$

Choose...



Consider the following Directed Graph.



Number of Edges = : 12

Total Indegree = : 12

Total Outdegree = : 12