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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Social Networks (course)Course
outlineHow does an
NPTEL
online
course
work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Week 8 ()

Week 9 ()

Week 10 ()

Week 11 ()

Week 2: Assignment 2

The due date for submitting this assignment has passed.

Due on 2022-08-10, 23:59 IST.

Assignment submitted on 2022-08-10, 19:00 IST

1) For graph G, what will the following code snippet return?

1 point

```
values = nx.degree(G).values()
```

```
x = 0
```

```
for value in values:
```

```
    if(x < value):
```

```
        x = value
```

```
return x
```

- ☐ Returns the number of nodes with the minimum degree.
- ☐ Returns the number of nodes with the maximum degree.
- ☐ Returns the minimum degree of the graph.
- ☒ Returns the maximum degree of the graph.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Returns the maximum degree of the graph.

Week 12 ()

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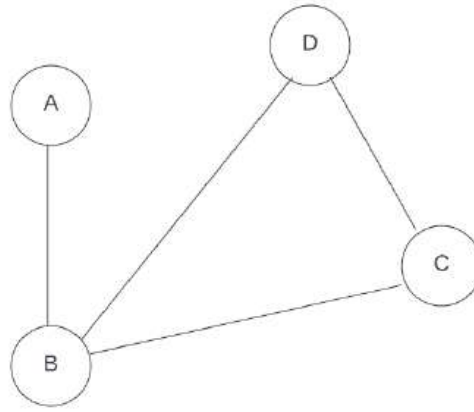
Text
Transcripts ()

Books ()

Live
Sessions ()

2)

1 point



The density of the given graph above is?

- ☐ 4/3
- ☒ 2/3
- ☐ 1/3
- ☐ 3/4

Yes, the answer is correct.

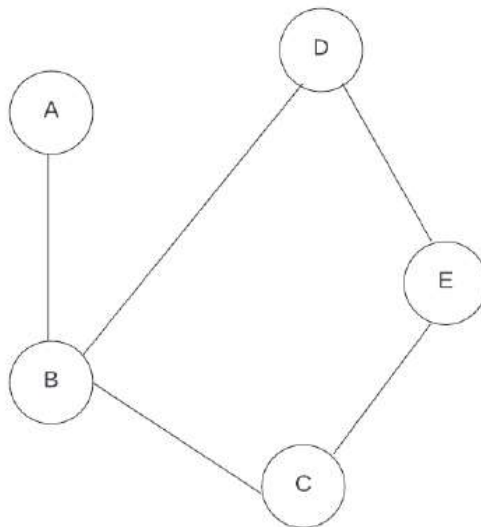
Score: 1

Accepted Answers:

2/3

3) For the given graph, If $A = \frac{\text{Highest degree}}{\sum \text{degree}}$, what will be the value of A?

1 point



- ☐ $\frac{3}{5}$
- ☐ $\frac{2}{5}$
- ☐ $\frac{2}{15}$
- ☒ $\frac{3}{10}$

Yes, the answer is correct.

Score: 1

Accepted Answers:

$\frac{3}{10}$

4) Which of the following is an example of a Directed graph?

1 point

- I. Network of Instagram followers
- II. Ancestral Tree
- III. Email network
- IV. Road network

- ☐ Only IV
- ☐ Only I, II
- ☐ Only II, III
- ☒ Only I, II, III

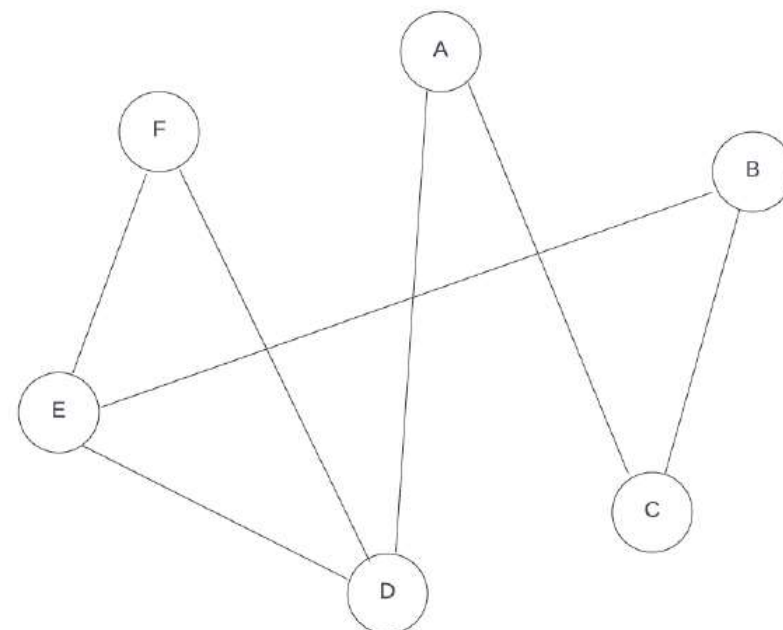
Yes, the answer is correct.

Score: 1

Accepted Answers:

Only I, II, III

5) If $X = \frac{\text{clustering coefficient of node } E}{\text{clustering coefficient of node } F}$ in the given graph, the value of X is **1 point**



- ☐ 1
- ☒ $\frac{1}{3}$
- ☐ $\frac{1}{9}$
- ☐

$$\frac{2}{3}$$

Yes, the answer is correct.

Score: 1

Accepted Answers:

$$\frac{1}{3}$$

6) Which of the following is/are network dataset format?

1 point

- I. GraphML
- II. Pajek NET
- III. Comma Separated Value(Edge List format)

- ☐ Only II
- ☐ Only III
- ☐ Only I, III
- ☒ Only I, II, III

Yes, the answer is correct.

Score: 1

Accepted Answers:

Only I, II, III

7) In graph G, where nodes represent words in a dictionary and there is an edge between two

1 point

nodes if the two words are synonymous. Then, choose the correct option according to the given two statements.

Statement I: The graph G is connected.

Statement II: If the word A is connected to B & B is connected to C, then A is synonymous to C.

- ☐ Both statements are incorrect.
- ☐ Statement I is incorrect & Statement II is correct.
- ☐ Statement I is correct & Statement II is incorrect.
- ☒ Both statements are correct.

No, the answer is incorrect.

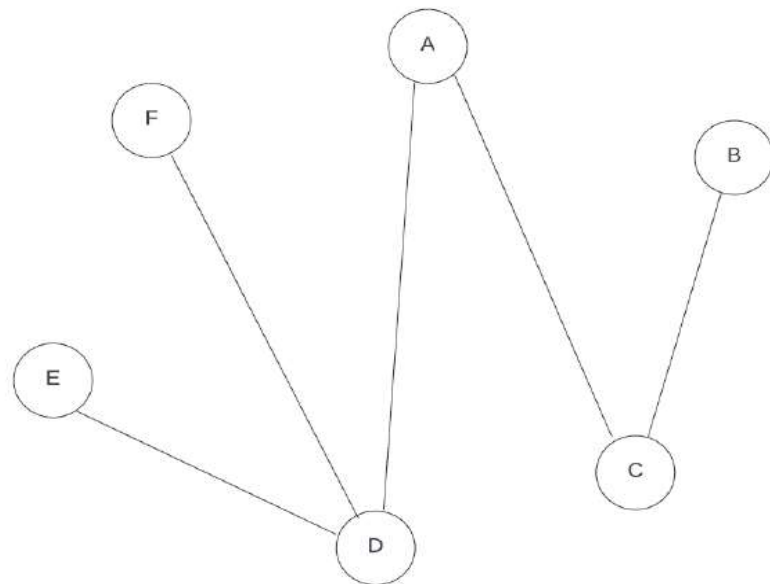
Score: 0

Accepted Answers:

Statement I is correct & Statement II is incorrect.

8) The diameter of the given graph G is ____.

1 point



- ☐ 5
☒ 4
☐ 3
☐ 2

Yes, the answer is correct.

Score: 1

Accepted Answers:

4

9) If there exist n nodes with no edges initially then, what is the probability of node V being isolated after including $n \log(n)$ edges uniformly at random? **1 point**

- ☐ $\frac{1}{e}$
☐ $\frac{1}{n \log(n)}$
☐ $\frac{1}{n}$
☒ $\frac{1}{n^2}$

Yes, the answer is correct.

Score: 1

Accepted Answers:

$\frac{1}{n^2}$

10) Choose the data set format which starts with the keyword "graph"? **1 point**

- ☐ GML
☐ Graph Exchange XML
☐ Pajek Net format
☒ GEXF

No, the answer is incorrect.

Score: 0

Accepted Answers:

GML