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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Social Networks (course)

Week 1: Assignment 1

The due date for submitting this assignment has passed.

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

Assignment submitted on 2022-07-30, 13:49 IST

1) If there exist a graph where nodes represents students and edges represents friendship, then for a rumour to be spread across entire class - ***1 point***

- Every student must know every other student.
- The graph needs to be connected.
- The graph need not be connected.
- Will spread in any case.

Yes, the answer is correct.
Score: 1

Accepted Answers:
The graph needs to be connected.

2) If x = random.randrange(5,10), which values can x take? ***1 point***

I) 5
II) 8
III) 4
IV) 10

- Only I, II, IV
- Only I, II, III
- Only II, III
- Only I, II

No, the answer is incorrect.
Score: 0

Accepted Answers:

Week 12 ()

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Only I, II

3) If x = random.randint(3,6), which values can x take? ***1 point***

I) 5
II) 4.3
III) 3
IV) 6

- Only I, II
- Only I, III
- Only I, III, IV
- Only I

Yes, the answer is correct.
Score: 1
Accepted Answers:
Only I, III, IV

4) What will be the output of the following code snippet? ***1 point***

```
x = [5, 2, 7, 3, 8]
try:
    a = x[5]
    if(a%2 == 0):
        print("It is an even number")
    else:
        print("It is an odd number")
except:
    print("Element does not exist")
```

- It is an even number
- It is an odd number
- Element does not exist
- The code won't run

Yes, the answer is correct.
Score: 1
Accepted Answers:
Element does not exist

5) What will be the output of the following code snippet? ***1 point***

```
import random
x = []
for i in range(7):
  x.append(random.randint(1,5))
x.sort()
x.append({"one":1, "two":2})
print(len(x))
```

- 9
- 8

- 7
- 10

Yes, the answer is correct.
Score: 1
Accepted Answers:
8

6) Maximum number of edges that can be present in a graph with 10 nodes are - ***1 point***

- 100
- 45
- 50
- 55

Yes, the answer is correct.
Score: 1
Accepted Answers:
45

7) For a complete graph Z with 5 nodes if $A = \frac{z.order()}{z.size()}$, what will be the value of A? ***1 point***

- $\frac{1}{4}$
- $\frac{1}{8}$
- $\frac{1}{2}$
- $\frac{1}{16}$

Yes, the answer is correct.
Score: 1
Accepted Answers:
$\frac{1}{2}$

8) What will nx.dijktra_path(G,u,v) return? ***1 point***

- Returns shortest path from u to v in a weighted graph
- Returns shortest path length
- Returns all possible paths from u to v
- Returns no. of possible paths from u to v

Yes, the answer is correct.
Score: 1
Accepted Answers:
Returns shortest path from u to v in a weighted graph

9) What will nx.gnp_random_graph(20,0.5) return? ***1 point***

- Returns graph with 20 nodes with half of the nodes connected.

- Returns graph with 20 nodes with each edge to be put with probability 0.5
- Returns a connected graph with 10 nodes.
- Returns a graph with 10 nodes with each edge to be put with probability 0.5

Yes, the answer is correct.
Score: 1

Accepted Answers:
Returns graph with 20 nodes with each edge to be put with probability 0.5

10) Maximum number of graphs possible from 50 nodes are - ***1 point***

- $50 * 50$
- $2^{\binom{50}{2}}$
- $\binom{50}{2}$
- 50^{50}

Yes, the answer is correct.
Score: 1

Accepted Answers:
$2^{\binom{50}{2}}$