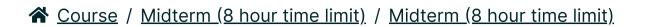


<u>Help</u> shengtatng ~



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Problem 6

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Problem 6-1

Correct

O points possible (ungraded)

Graphs are a convenient way to represent the relations between people, objects, concepts, and more.

There are many ways to create a graph, some of which are random. A random graph is one that is generated by randomly adding edges to a list of nodes. The list of nodes for this problem is initialized as follows:

```
nodes = []
for i in range(n):
   nodes.append(newNode(i)) # newNode takes one parameter, the number of the node
```

A helper method, addEdge, is referenced in this problem. The addEdge method takes two integers - representing nodes in the graph - and adds a directed edge from the first node to the second node. So, addEdge(8, 2) adds a directed edge from Node 8 to Node 2.

In each code piece below, a graph is generated using the above node set by adding edges in some fashion. Your job is to examine the code and select the type of graph that will be generated. Your choices for each question will be: tree; graph (undirected graph); line graph; digraph (directed graph); complete graph or clique; bar graph; bipartite graph; loop or connected chain of nodes. Note that this last option refers to a graph that consists of one single, large loop or connected chain of nodes.

```
for i in range(len(nodes)):
         x = random.choice(nodes)
         y = random.choice(nodes)
         addEdge(x,y)
digraph (directed graph)
  Submit
 Correct
Problem 6-2
O points possible (ungraded)
 for i in range(len(nodes)):
         x = random.choice(nodes)
         y = random.choice(nodes)
         addEdge(x,y)
         addEdge(y,x)
graph (undirected graph)
  Submit
            You have used 1 of 1 attempt
```

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0 points possible (ungraded) for i in range(len(nodes)): w = random.choice(nodes) x = random.choice(nodes) y = random.choice(nodes) z = random.choice(nodes) addEdge(w,x) addEdge(x,y)addEdge(y,z) addEdge(z,w) complete graph or clique × Submit You have used 1 of 1 attempt **X** Incorrect Problem 6-4 0 points possible (ungraded) for x in nodes: for y in nodes: addEdge(x,y)addEdge(y,x) complete graph or clique Submit You have used 1 of 1 attempt ✓ Correct Problem 6-5 O points possible (ungraded) The out degree of a node is the number of its neighbors, i.e. for a node x, its degree is the number edges, of the form (x, y_i) , where y_i is some other node. Which graph has the largest out degree per node? complete graph or clique Submit You have used 1 of 1 attempt ✓ Correct Previous Next > **■** Calculator Hide Notes

Problem 6-3



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