Assignment 1

The due date for submitting this assignment has passed. As per our course policies, you have not submitted the assignment.

1. If $B = 100$, let $S = \text{Billion}$ then what should the following operation output? (Use $\text{SocialNetwork}$ as True and $\text{NotSocialNetwork}$ as False)
   
   ```
   if (B == 100) {
       S = B * 100;
   } else {
       S = 0;
   }
   ```

   1 point

   Accepted Answers:
   - (a) $S = 10000$
   - (b) $S = 0$
   - (c) Both answers are correct
   - (d) None of the above

   2. What will be the output of the following Python code snippet?
   
   ```
   def my_function(arg):
       return arg
   ```

   - $0$
   - $\text{None}$
   - $\text{MyFunction}$, $\text{MyFunction}$, $\text{MyFunction}$
   - None

   1 point

   Accepted Answers:
   - (a) $0$
   - (b) $\text{None}$
   - (c) $\text{MyFunction}$, $\text{MyFunction}$, $\text{MyFunction}$
   - (d) None

   3. Which of the following is true for variable name in Python?

   - Variable names can be of any length
   - All private members must have leading and trailing underscores
   - Underscores and apostrophes are the only two special characters allowed
   - All of the above

   1 point

   Accepted Answers:
   - (a) Variable names can be of any length
   - (b) All private members must have leading and trailing underscores
   - (c) Underscores and apostrophes are the only two special characters allowed
   - (d) All of the above

   4. Consider any group of two or more people, there are ______ people who have exactly the same number of friends inside the group.

   - At least two
   - At least three
   - At least four
   - None of the above

   1 point

   Accepted Answers:
   - (a) At least two
   - (b) At least three
   - (c) At least four
   - (d) None of the above

   5. The command `networkx.draw(...)` doesn't give the following details about a graph $G$:

   - The number of nodes
   - The number of edges
   - Connectedness
   - Type of Graph (Dense or Sparse)

   1 point

   Accepted Answers:
   - (a) The number of nodes
   - (b) The number of edges
   - (c) Connectedness
   - (d) Type of Graph (Dense or Sparse)

   6. In networkx, which function is used to get the neighbors of a node in a graph $G$?

   - `neighbors()`
   - `neighbors_iter()`
   - `neighbors_dict()`
   - `None of the above`

   1 point

   Accepted Answers:
   - (a) `neighbors()`
   - (b) `neighbors_iter()`
   - (c) `neighbors_dict()`
   - (d) None of the above

   7. What is the output of the following code snippet?

   ```
   import networkx as nx
   G = nx.Graph()
   G.add_edges_from([(1, 2), (3, 4), (5, 6), (7, 8)])
   print(G.nodes())
   ```

   - [1, 2, 3, 4, 5, 6, 7, 8]
   - [1, 2, 3, 4, 5, 6, 7, 8]
   - [1, 2, 3, 4, 5, 6, 7, 8]
   - None of the above

   1 point

   Accepted Answers:
   - (a) [1, 2, 3, 4, 5, 6, 7, 8]
   - (b) [1, 2, 3, 4, 5, 6, 7, 8]
   - (c) [1, 2, 3, 4, 5, 6, 7, 8]
   - (d) None of the above

   8. In the command `networkx.draw(...)` what does the parameter $x$ and $y$ control?

   - Number of edges and the probability with which edges are to be placed between every pair of nodes
   - Number of nodes and the probability with which edges are to be placed between every pair of nodes
   - The probability with which edges are to be placed between every pair of nodes and number of edges
   - Number of edges and Number of nodes

   1 point

   Accepted Answers:
   - (a) Number of edges and the probability with which edges are to be placed between every pair of nodes
   - (b) Number of nodes and the probability with which edges are to be placed between every pair of nodes
   - (c) The probability with which edges are to be placed between every pair of nodes and number of edges
   - (d) Number of edges and Number of nodes

   9. In the command `networkx.draw(...)` what does the parameter $x$ and $y$ control?

   - Number of nodes and the probability with which edges are to be placed between every pair of nodes
   - Number of edges and the probability with which edges are to be placed between every pair of nodes
   - The probability with which edges are to be placed between every pair of nodes and number of edges
   - Number of edges and Number of nodes

   1 point

   Accepted Answers:
   - (a) Number of edges and the probability with which edges are to be placed between every pair of nodes
   - (b) Number of nodes and the probability with which edges are to be placed between every pair of nodes
   - (c) The probability with which edges are to be placed between every pair of nodes and number of edges
   - (d) Number of edges and Number of nodes