1.

Question 1

Given an array of 12 numbers -> 1,45,5,34,23,5,82,12,35,21,8,9

And a hashing function modulus 6. How many collisions would you expect to have in your table?

1 / 1 point

4

6

5

7

Correct

That’s correct. Applying the hashing function led to generating 6 collisions.

2.

Question 2

What data structure would be most suitable for mimicking the actions of a hashtable?

1 / 1 point

Queue

Stack

Dictionaries

Correct

That’s correct. Some languages that do not have built-in hashtable types use dictionaries to emulate the behavior.

3.

Question 3

What value is stored at the root of a min\_heap?

1 / 1 point

The highest value

The last inserted value

The lowest value

Correct

That’s correct. A min heap stores in order of lowest to highest

4.

Question 4

Why is the travelling salesman used in graphs?

1 / 1 point

Because the distance between two nodes reflects distance in real life.

Because graphs store information in a fixed way so that every node is the exact same distance apart. Allowing us apply travel times to it.

Because the analogy of travelling can be related to the number of connected nodes.

Correct

That’s correct. When one talks about the travelling sales man, it need not be routed in actual distance. Instead, this is an analogy to the connectedness between elements. From this principle, many algorithms can be applied to extract information from data.

5.

Question 5

In relation to computer science what is a clique?

1 / 1 point

It is a social group that one actively engages with.

It is a subset of a graph that has found to have strong internal connections and weak external ones.

It is a memory feature that allows for quick lookup of one's social circle.

Correct

That’s correct. It can be determined by analyzing the interconnectedness of nodes and comparing them to external nodes.