1. What happens when we run this program (it compiles) and type adabra cadabra in to the console?

using System;

public class Test3 {

public static void Main() {

string textInput = "";

textInput = Console.ReadLine();

string[] args = textInput.Split(" ");

if (args.Length == 0)

if (args.Length == 1)

Console.WriteLine("Not enough inputs");

else

Console.WriteLine(args[0] + args[1]);

}

}

Answer: Process exists with code. System will not display any output because we split arguments input with space and args.lenght is = 2 and else statement is for nested if statement

2. In the following class:

public class A

{

public bool Foo()

{

return GetType() == typeof(A);

}

}

What does the Foo() method return? Could the method be simplified with an implementation that just returned this value, whilst ensuring all the behaviour of any system that used the method was not changed?

Answer1: Foo() method returns Boolean value which is **true**.

Answer2:

public class A

{

public bool Foo () => GetType() == typeof(A);

}

3. Given the following class:

public class BinaryTree<T> where T : class

{

public T NodeValue { get; set; }

public BinaryTree<T> LeftBranch { get; set; }

public BinaryTree<T> RightBranch { get; set; }

}

implement the following member function:

public int Count()

{

// …

}

Answer:

public int Count()

{

return CountNodes(this);

static int CountNodes(BinaryTree<T> tree) => tree?.NodeValue == null

? 0

: 1 + CountNodes(tree.LeftBranch) + CountNodes(tree.RightBranch);

}

4. OpenBlend gives structure to meetings between team members and their managers. We bulk load users into the system from spreadsheets sent to us by our clients. In each row we expect the email address of the team member and the email address of their manager.

What validation should we perform on each row of data before we save it into our database?

5. For each meeting (“session”) between a team member and their manager, a row is added to the SessionHistory table in the OpenBlend database. Amongst other things, the SessionHistory table has integer columns for the team-member and manager ids, and a “SessionDate” datetime column for the session date.

Write a query to show how many sessions there were each month in the years 2018 and 2019 – i.e. the result set should have 24 rows, 1 for each month across those 2 years.

TODO This Question –

-- table - SessionHistories

-- table - TeamMembers

-- table - Managers

-- SessionDate

6.

Isobel: “Josh is innocent”

Josh: “George is guilty”

George: “Tara is guilty”

Tara: “Isobel is innocent”

Only the guilty person is lying, all the others are telling the truth. Who is guilty?

Answer: George

*There is only one guilty person, so either Genotan or Josh is lying. If Josh is lying, Genotan is innocent and is therefore telling the truth. Hence Tegan is guilty, contradicting the fact that there is just one guilty person. So Josh is not lying. Therefore Genotan is the guilty person. For investigation 13.1 Check that the guilt of Genotan is consistent with all the information given in the question.*

7.

What problems can you find in this picture?

