Question 1.

Can you explain differences between data-driven testing and behaviour-driven testing?

Data Driven Testing is a technique when a tester is using test inputs from some specific file or multiple sources. It makes it easy to change data stub since the file or multiple files are used.

Behavior Driven Testing is a technique used in Agile when the test cases written in readable way by using Given, When, Then steps
Like in example below: source

```
Given that a fund transfer module in net banking application has been developed
And I am accessing it with proper authentication
```

```
WhenI shall transfer with enough balance in my source account
Or I shall transfer on a Bank Holiday
Or I shall transfer on a future date
And destination a/c details are correct
And transaction password/rsa code / security authentication for the transaction
is correct
And press or click send button
```

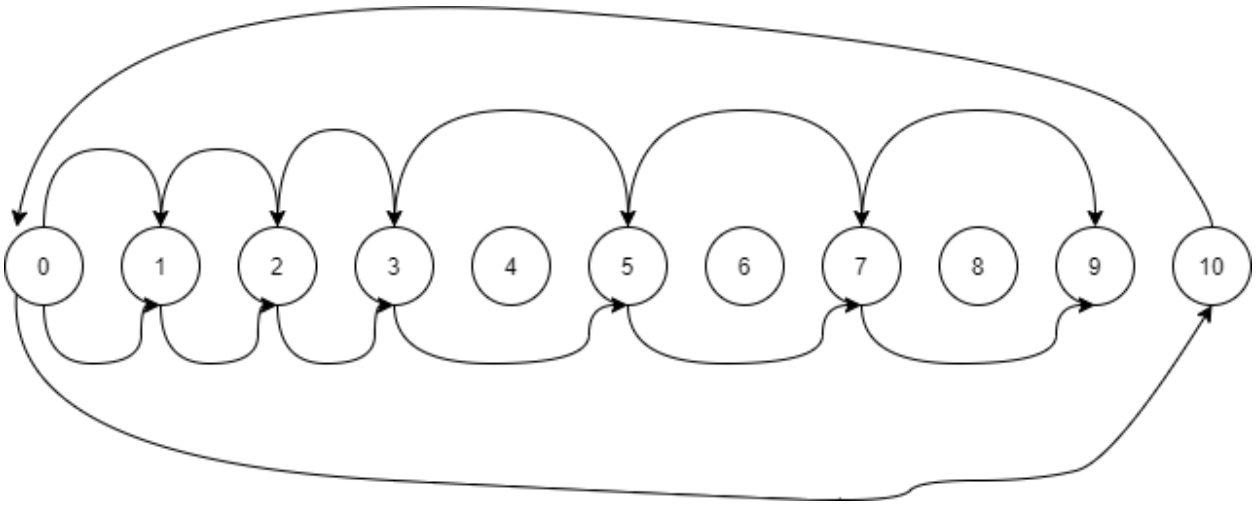
```
Then amount must be transferred
And the event will be logged in log file
```

This technique is used so that System/Business Analysts, Developer and QA Engineers will be on the same page, it will be easy to understand the Acceptance Criteria and do testing based on AC. Followed by writing automation scripts which follow BDD logic.

Question 2a.

Building has 10 floors and a basement (parking). How will you test Elevators that can only go to the odd and 2nd floor?

I would use state transition technique to test this scenario and would go from basement (0) floor to 9 and backwards one by one. Also, if there are UP and Down buttons then I would try to click up when I am let say at 3rd floor to check will it go to 5th floor instead of 4th, I would test it again from 0 to 9 meaning I would go from 0 to 9 by clicking UP button and then click down from floor 9.



Question 2b.

How will you test a software application that is developed so that you can enter numbers from 0-100?

In order to test the functionality of entering numbers I would test using digits like 0,1,2,3,4,5,6,7,8,9 then I would test 2 digit and 3 digit numbers like 99 and 100.
Would definitely try to input negative numbers, input numbers over the limit meaning 101, input decimal numbers like 99.9, input different symbols.

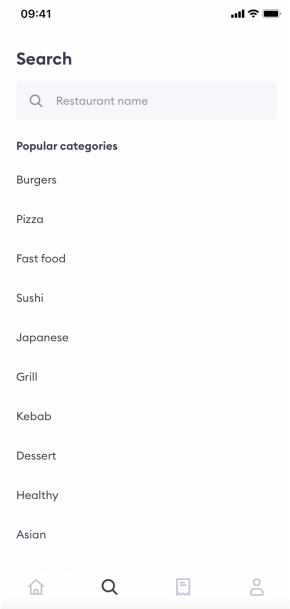
Software application is broad term, I am not considering that it is mobile, desktop or web. Meaning I do not add operating system and browser compatibility cases, cases with double tapping for mobile etc.

But in general, I would first of all ask for classes based on expected results to create equivalence partitioning and boundary values for each class.

Question 3.

Download and install Bolt Food application.

Imagine there is a backlog refinement meeting ongoing. The following design is provided for a new feature request:



Acceptance criteria: “Customers can search for a preferable restaurant”

Do you need to ask for any additional information to start writing the test cases? If yes, write what exactly do you need to proceed. Write the draft of the test cases and test plan, find the bugs (if there are any) and report them in format, which you think is most appropriate.

Test Cases link

Restaurant Search Bolt Food					
ID	Subject	Description	Expected Result		Comments
	Testing of Request a ride feature				
FNC-2	Search CamelCase Restaurants	1. Search Restaurants by using CamelCase like SuSHi	verify that Sushi related restaurants are displayed	Passed	
FNC-3	Search Restaurants with space between letters	1. Search Restaurants by using space between letter like S ushi	verify that Sushi related restaurants are displayed	Passed	
FNC-4	SQL Injection	1. use sql injection related input 2. examples like ' or 1=1;--. 3. use <script>alert('hi')</script>	verify that there are no database related errors	Passed	
FNC-5	No Internet	try to search restaurant without and internet	verify that there is no internet connection error	Passed	
FNC-6	2g/ 3g/ LTE networks	try to search restaurant with 2g/3g/ 4g networks	verify that restaurant search is works with 2g, 3,g 4g	Passed	
FNC-7	Copying restaurant name	it is not possible to copy and input to the search field	it is not possible to copy and input to the search field	Warning	it is not possible to copy and input to the search field
FNC-8	Searching restaurant categories	try to search category like G		Passed	
FNC-9	Searching with emoticons	use tomato emoticon which is in Grocery category which has tomato	verify that it is possible to search category and also use emoticon	Warning	
FNC-10	Maximum amount of characters	use maximum symbols	verify that there is some size limit for input	Passed	
FNC-11	Use digits and symbols to search restaurants which has digits and symbols in the name like 1Falafel and Koht nr.1	use dot in search .	Koht nr.1 has dot in the name but it is not found	Warning	Koht nr.1 has dot in the name but it is not found
FNC-12	change language to Russian or Azerbaijani and check the search	1. change to Azerbaijani language 2. search with Azerbaijani letters 3. change to Russian language 4. search with Russian letters	1. verify that restaurants are displayed in Azerbaijani language 2. verify that search returns restaurants 3. verify that restaurants are displayed in Russian	Warning	Search in Azerbaijani and Russian languages are not finding restaurants. But, in Azerbaijan it works
FNC-13	try to edit search input while changing cursor to the middle of search input	1. input let say SusDDDDshi 2. try to move cursor to D letters 3. try to remove D letters	verify that it is possible to edit search input from middle	Warning	it is not possible to move cursor
				N/A	
				N/A	

Bugs and Improvements

[Link]

Question 4a.

Write a function that, given three integers A, B and K, returns the number of integers within the range [A…B] that are divisible by K. For example, for A = 6, B = 11 and K = 2, your function should return 3, because there are three numbers divisible by 2 within the range [6…11], namely 6, 8 and 10

def moduler(a,b,k):

```
    counter = 0
    for i in range(a,b+1):
        if i%k==0:
            counter+=1
        else:
            pass
    return counter
```

https://github.com/Ismayil94/bolt_task/blob/main/qustion4a.py

Question 4b.

A positive integer N is called prime if it has exactly two distinct divisors: 1 and N. The first few prime integers are 2, 3, 5, and 7. Write a function that, given two positive integers A and B, returns the number of prime numbers within the range [A…B] (both ends are included in the range). For example, given A = 11 and B = 19 the function should return 4, because there are four prime numbers within the range [11…19], namely 11, 13, 17, 19..

```
import math

def is_prime(number):
    for i in range(2,int(math.sqrt(number))+1):
        if number%i==0:
            return False
        else:
            pass
    return True


def num_of_primes(a,b):
    counter = 0
    for i in range(a,b+1):
        if is_prime(i):
            counter+=1
        else:
            pass
    return counter
```

https://github.com/Ismayil94/bolt_task/blob/main/qustion4b.py

Based on Sieve of Eratosthenes
https://en.wikipedia.org/wiki/Sieve_of_Eratosthenes

Question 5.

1. **Please write SQL statement which will return all customers with orders using inner join**
2. **Please write SQL statement which will return all customers, and any orders they might have**

5.1
```
SELECT Customers.CustomerName,  Orders.OrderID FROM Orders INNER JOIN Customers
ON Orders.CustomerID = Customers.CustomerID;
```
5.2
```
SELECT Customers.CustomerName, Orders.OrderID
FROM Customers
FULL JOIN Orders ON Customers.CustomerID=Orders.CustomerID;
```

ADDITIONAL, please check them too:

Bug tracking for BOLT Ryder app link
Test Cases for BOLT Ryder app link