**1) One of the fields on a form contains a text box which accepts numeric values in the range of 18 to 25. Identify the invalid Equivalence class.**

**a) 17**

**b) 19**

**c) 24**

**d) 21**

**Ans. a) 17**

**2) Input Box should accept the Number 1 to 10. Identify Equivalence partitioning and Boundary values for testing**

**Ans.** **EQUIVALENCE PARTITION**

**Partition 1 :** Number less than 1

**Partition 2 :** Number should lie between 1 to 10 (including 1 and 10)

**Partition 3 :** Number greater than 10

Valid Partition is : **Partition 2**

Invalid Partition is : **Partition 1, Partition 3**

**BOUNDARY VALUE ANALYSIS**

**Boundary Values :** 0,1,2,5,9,10,11

### 3) Why is Equivalence & Boundary Analysis Testing is used?

**Ans.** In **Equivalence Testing** method, the input domain data is divided into different equivalence data classes. This method is typically used to reduce the total number of test cases to a finite set of testable test cases, still covering maximum requirements.

**Boundary value analysis :** It is widely recognized that input values at the extreme ends of the input domain cause more errors in the system. More application errors occur at the boundaries of the input domain. **'Boundary Value Analysis'** Testing technique is used to identify errors at boundaries rather than finding those that exist in the center of the input domain.

**For Example,** If you are testing for an input box accepting numbers from 1 to 1000 then there is no use in writing thousand test cases for all 1000 valid input numbers plus other test cases for invalid data.

Then **Equivalence partition** for the same is
**Class1 :** Less than 1 - Invalid

**Class 2** : 1-1000 - Valid

**Class 3** : 1001 and above - Invalid.

**Boundary values** for the same is - 0,1,2,500,999,1000,1001

### 4) Write Test Cases For This Scenario:

**If A Job Fails It Should Get Restarted Again. This Should Happen For Three Times. If It Fails again, then It should quit**

**Ans.**

I assume that for quiting the job it is not necessary that 3 job fails in a sequence.

https://docs.google.com/spreadsheets/d/1cW3gzSjux4W9rPGWTcPuWqXl5HE99EPnGhtAMoEAhnA/edit?usp=sharing

### 5) Write The Test Case/scenario For A Login Page?

**Ans. I have taken a general form test cases weather it is for web form or app form.**

https://docs.google.com/spreadsheets/d/1cW3gzSjux4W9rPGWTcPuWqXl5HE99EPnGhtAMoEAhnA/edit?usp=sharing

**6) What Are The Test Cases/scenario For Mouse? (To verify the functionalities of a mouse)**

**Ans.** I have taken the wired mouse with LED emitted not ball under it.

https://docs.google.com/spreadsheets/d/1cW3gzSjux4W9rPGWTcPuWqXl5HE99EPnGhtAMoEAhnA/edit?usp=sharing

**7) Write test cases/scenarios to verify the functionality of a printer?**

**Ans.** I Take a wired printer with a scanner on it which can scan the document.
I assume that the printer does not work with WIFI connectivity.

https://docs.google.com/spreadsheets/d/1cW3gzSjux4W9rPGWTcPuWqXl5HE99EPnGhtAMoEAhnA/edit?usp=sharing

**8) Write down test case/scenarios to list down possible steps to test a smart phone**

**Ans.** I take a touchscreen phone with Normal features.

https://docs.google.com/spreadsheets/d/1cW3gzSjux4W9rPGWTcPuWqXl5HE99EPnGhtAMoEAhnA/edit?usp=sharing

**9) There is a text box which accepts numbers from 1-10. List down the test data which needs to be tested for Boundary value analysis.**

**Ans.**

**0,1,2,5,9,10,11**

**10) Suppose you have a bank account that offers variable interest rates:**

**5% for the first $1000 credit;**

**10% for the next $1000;**

**And 15% for the rest.**

**If you wanted to check that the bank was handling your account correctly what valid input partitions might you use?**

**Ans.**

| Partition | Valid/ Invalid |
|---|---|
| Less than 1000$ (1000 not included) | Invalid |
| 1000$-2000$ (1000 & 2000 both included) | Valid |
| 2000$ and above (2000 not included) | Valid |

**11) A mail order company charges $2.95 postage for deliveries if the package weighs less than 2 kg, $3.95 if the package weighs 2 kg or more but less than 5 kg, and $5 for packages weighing 5 kg or more.**

**Generate a set of valid test cases using equivalence partitioning.**

**Ans.** **Partition 1 =** less than 2kg (2kg not included)

**Partition 2 =** 2kg - 5kg (2kg included only)

**Partition 3 =** more than 5kg (5kg included here)

**12) Boiling point of water is at 100 degrees Celsius. Determine the boundary values**

**Ans.** 99,100,101

**13) Exam pass – for 40 marks; merit at 60 and above; and distinction at 80 and above.**

**Determine the boundary values**

**Ans.**

| Category | Boundary Value |
|---|---|
| Pass | 39,40,41 |
| Merit | 59,60,61 |
| Distinction | 79,80,81 |

**14) Order numbers on a stock control system can range between 10000 and 99999 inclusive. Which of the following inputs might be a result of designing tests for only valid equivalence classes and valid boundaries:**

**a) 1000, 5000, 99999**

**b) 9999, 50000, 100000**

**c) 10000, 50000, 99999**

**d) 10000, 99999**

**e) 9999, 10000, 50000, 99999, 100000**

**Ans. c) 10000, 50000, 99999**

As this option contains the boundary values of valid partition than other options.

**15) A program validates a numeric field as follows:**

**Values less than 10 are rejected, values between 10 and 21 are accepted, values greater than or equal to 22 are rejected which of the following input values cover all of the equivalence partitions?**

**a. 10,11,21**

**b. 3,20,21**

**c. 3,10,22**

**d. 10,21,22**

**Ans. c. 3,10,22** because,

Partition 1 = Less than 10 (10 Excluded) (Invalid)

Partition 2 = 10-21 (including 10,21) (Valid)

Partition 3 = 22 and above (Invalid)

## 16) Which test cases are written first: white boxes or black boxes?

**Ans. Black Boxes's** test cases written first because for white box test cases we should ensure that our whole code is prepared then only we can test where as in Black box test cases we start creating test cases parallelly according to the requirement by the client.

## 17) Can you explain requirement traceability and its importance?

**Ans. Requirement Traceability** is mapping of requirements to test cases.

Requirement Traceability is the final section of the test plan for measuring to cover all the requirement of the projects. It enables the users for finding the origin of every requirement and track all the changes which made the requirement.

**Types of traceability:**

**Forward traceability:** This matrix is used to check whether the project progresses in the desired direction and for the right product.

**Backward or reverse traceability**: It is used to ensure whether the current product remains on the right track.

**Bi-directional traceability ( Forward+Backward):** This traceability matrix ensures that all requirements are covered by test cases.

**Importance**

It is important to know whether all the requirements mentioned in the Requirement Document have a corresponding test case or not.

At the same time, it is important to know which requirement a particular test case has been written for. These are important if there are any changes in the requirement, we should know which test cases need to be re-written or modified.

The main agenda of every tester should be to understand the client's requirement and make sure that the output product should be defect-free. To achieve this goal, every QA should understand the requirement thoroughly and create positive and negative test cases.

This would mean that the software requirements provided by the client have to be further split into different scenarios and further to test cases. Each of this case has to be executed individually.

The traceability matrix is typically a worksheet that contains the requirements with its all possible test scenarios and cases and their current state, i.e. if they have been passed or failed. This would help the testing team to understand the level of testing activities done for the specific product.