1. **Implement Equivalence Partitions**
   1. Let's consider a simple login form that accepts a username and password. The requirements for the login form are as follows:

* The username field must be alphanumeric and have a length between 5 and 10 characters.
* The password field must be alphanumeric and have a length between 8 and 12 characters.

Based on these requirements, create equivalence partitions for each input field.

**Solution:**

**For username:**

**Valid Class:**

**Invalid Class:**

**For password:**

**Valid Class:**

#### Invalid Class:

* 1. Let us consider an example of any college admission process. There is a college that gives admissions to students based upon their percentage. Consider percentage field that will accept percentage only between 50 to 90 %, more and even less than not be accepted, and application will redirect user to an error page.
* If percentage entered by user is less than 50 %or more than 90 %, that equivalence partitioning method will show an invalid percentage.
* If percentage entered is between 50 to 90 %, then equivalence partitioning method will show valid percentage

**Solution:** .

**Valid Class:**

**Invalid Class 1:**

**Invalid Class 2:**

4.3 Let us consider an example of software application. There is function of software application that accepts only particular number of digits, not even greater or less than that particular number. Consider an OTP number that contains only 6-digit number, greater and even less than six digits will not be accepted, and the application will redirect customer or user to error page.

* If password entered by user is less or more than six characters, that equivalence partitioning method will show an invalid OTP.
* If password entered is exactly six characters, then equivalence partitioning method will show valid OTP.

**Solution:** .

**Valid Class:**

**Invalid Class 1:**

**Invalid Class 2:**

* 1. Testing an input box for a mobile number accepting ten digits (i.e. length of input value has to be ten).

**Solution:** .

* **Valid Class:**
* **Invalid Class 1:**
* **Invalid Class 2**

4.5 Consider this scenario: For a bank savings account, a 4% interest rate is given if the account balance is between $01 and $200, 7% rate of interest is given if the account balance is in the range of $201 to 900, and 9% interest rate is considered for account balance is $901 & above.

For the above scenario, we can identify three valid equivalence classes and one invalid.

Test cases for the above (interest rate) scenario:

**Invalid data class**:

**Valid data class 1**:

**Valid data class 2**:

**Valid data class 3:**