**QA Assignment**

1. Write the Scenarios for Calculator.
2. Write the Scenarios for Watch.
3. Write the Scenarios for Sign up page of Gmail or Flipkart.

Example: **Scenarios of PENCIL**:

1.Verify that the text written with the pencil is readable/legible.

2.Verify that the user can write smoothly on different types/quality paper surfaces.

3.Check that the darkness/color of the text written by pencil is as per the specifications.

4.Verify that the text written by pencil can be erased by normal erasers.

ETC….

1. **Scenario for calculator:**
2. Basic Arithmetic Operations:

Verify that the calculator correctly performs basic arithmetic operations: addition, subtraction, multiplication, and division.

Example: Check if 7 + 3 equals 10, 15 - 4 equals 11, 5 × 6 equals 30, and 20 ÷ 4 equals 5.

B) Order of Operations:

Verify that the calculator correctly follows the order of operations ( PEMDAS/BODMAS).

Example: Check if (3 + 2) × 4 equals 20 and 10 ÷ (2 + 3) equals 2.

C) Decimal Calculations:

Verify that the calculator handles decimal numbers correctly.

Example: Check if 3.5 + 2.25 equals 5.75 and 7.8 - 3.4 equals 4.4.

D) Percentage Calculations:

Verify that the calculator can perform percentage calculations accurately.

Example: Check if 25% of 200 equals 50 and 30% of 150 equals 45.

E) Square Root Function:

Verify that the square root function works correctly.

Example: Check if the square root of 25 is 5 and the square root of 144 is 12.

F) Memory Functions:

Verify that the memory functions (M+, M-, MR, MC) work as expected.

Example: Check if storing a value with M+ and recalling it with MR yields the correct number.

G) Negative Numbers:

Verify that the calculator handles negative numbers correctly.

Example: Check if -7 + (-3) equals -10 and -12 ÷ -3 equals 4.

H) Error Handling:

Verify that the calculator displays appropriate error messages for invalid operations.

Example: Check if dividing by zero results in an error message.

I) Scientific Functions:

Verify that advanced functions like trigonometric, logarithmic, and exponential functions work correctly.

Example: Check if sin (90°) equals 1, log10(100) equals 2, and e^2 equals approximately 7.389.

J) Display Accuracy:

Verify that the calculator’s display shows the results accurately and clearly.

Example: Check if 0.3333333 is displayed correctly and truncation/rounding is handled as per specifications.

K) Button Responsiveness:

Verify that all buttons respond correctly and consistently.

Example: Check if pressing 7 results in the number 7 appearing on the display and if the C button clears the current entry.

L) Battery Life:

Verify that the calculator operates correctly over an extended period of usage.

Example: Check if the calculator continues to function properly after several hours of continuous use or after extended periods without use.

M) Power On/Off Functionality:

Verify that the calculator powers on and off reliably.

Example: Check if the calculator turns on with the ON button and turns off with the OFF button, if applicable.

N) Multi-Function Operations:

Verify that the calculator can handle multiple operations in a single calculation.

Example: Check if 5 + 3 × 2 equals 11 (following the correct order of operations).

**2) Scenario for watch:**

A) Time Accuracy:

Verify that the watch displays the correct time.

Example: Check if the watch shows the accurate current time when synchronized with a reliable time source.

B) Date Functionality:

Verify that the watch accurately displays the date.

Example: Check if the date changes correctly at midnight and matches the current calendar date.

C) Alarm Function:

Verify that the alarm feature functions correctly.

Example: Set an alarm for a specific time and ensure the watch sounds the alarm at the set time.

D) Chronograph/Stopwatch Function:

Verify that the chronograph/stopwatch function works as expected.

Example: Start, stop, and reset the chronograph to ensure it accurately measures elapsed time.

E) Backlight/Illumination:

Verify that the backlight or illumination feature is operational.

Example: Check if the watch’s display is visible in low-light conditions when the backlight is activated.

F) Water Resistance:

Verify that the watch’s water resistance meets its specifications.

Example: Test the watch’s performance after submersion in water or exposure to moisture to ensure no water leakage or damage.

G) Battery Life:

Verify that the watch maintains accurate time over an extended period.

Example: Check if the watch continues to function correctly without needing a battery change within the specified battery life.

H) Durability and Build Quality:

Verify that the watch withstands normal wear and tear.

Example: Check if the watch case, strap, and glass remain intact and function properly after exposure to everyday stressors.

I) Timekeeping Consistency:

Verify that the watch maintains accurate time over a 24-hour period.

Example: Compare the watch’s time at various intervals to ensure there is no

significant deviation.

J) Adjustability and Comfort:

Verify that the watch strap or band can be adjusted for different wrist sizes and is comfortable to wear.

Example: Check if the watch fits securely and comfortably on various wrist sizes and can be easily adjusted.

K) Time Zone Adjustment:

Verify that the watch can be easily adjusted to different time zones.

Example: Set the watch to a different time zone and verify that the time displays correctly for that zone.

L) Synchronization (for Smart Watches) :

Verify that the smart watch can synchronize with a paired smartphone or other devices.

Example: Check if notifications, updates, and data sync correctly between the watch and the paired device.

M) Button Functionality:

Verify that all buttons or touch interfaces on the watch function correctly.

Example: Ensure that pressing buttons or interacting with the touch screen produces the expected results.

N) Display Visibility:

Verify that the watch’s display is clear and readable under various lighting conditions.

Example: Check if the display remains legible in bright sunlight and dim environments.

0) Shock Resistance:

Verify that the watch can withstand shocks or impacts.

Example: Test the watch's performance after being subjected to minor drops or knocks to ensure it continues to operate correctly.

P) Genuine Materials:

Verify that the materials used in the watch meet the product specifications.

Example: Check if the watch’s materials, such as leather, stainless steel, or sapphire crystal, match the described quality and durability.

Q) User Manual and Instructions:

Verify that the user manual provides clear instructions for setting and using the watch.

Example: Ensure that the manual covers all features and provides troubleshooting guidance.

3) **Scenarios for Sign up page of Gmail or Flipkart:**

A) Form Field Validation:

Verify that all required fields are present and correctly labelled.

Example: Ensure that fields like Name, Email Address, Password, and Confirm Password are visible and correctly labelled.

Verify that each field accepts the appropriate input type.

Example: The Email Address field should accept valid email formats, and the Password field should accept secure characters.

B) Email Address Validation:

Verify that the email address format is validated correctly.

Example: Enter an invalid email address (e.g., "user@domain") and ensure an appropriate error message is displayed.

Verify that the system checks if the email address is already in use.

Example: Enter an email address that is already registered and ensure that an error message indicates the email is already taken.

C) Password Strength and Validation:

Verify that the password meets the required strength criteria.

Example: Enter a password that is too short or lacks complexity and check if an error message indicates the password requirements.

Verify that the password and confirm password fields match.

Example: Enter different values in the Password and Confirm Password fields and ensure an error message is displayed.

D) Error Messages:

Verify that error messages are clear and helpful.

Example: If a required field is left empty, ensure the error message specifies which field is missing.

Verify that error messages are displayed in an appropriate location.

Example: Error messages should appear near the respective form field or in a clearly visible area.

E) Submit Button Functionality:

Verify that the form can be submitted only if all fields are correctly filled out.

Example: Attempt to submit the form with invalid or incomplete data and ensure the submission is blocked with appropriate error messages.

Verify that the submit button is disabled until all required fields are valid.

Example: Check if the button is enabled only when all validation rules are satisfied.

F) Field Autofill and Auto-correction:

Verify that autofill suggestions are handled correctly.

Example: Check if the browser’s autofill feature correctly populates fields like email address or name.

Verify that the auto-correction feature does not interfere with data entry.

Example: Ensure that auto-correction does not alter user input in fields like email or password.

G) Accessibility:

Verify that the form is accessible via screen readers.

Example: Ensure that all form fields, labels, and error messages are properly read by screen readers.

Verify that the form can be navigated using keyboard shortcuts.

Example: Ensure that users can tab through fields and use Enter or Space to submit the form.

H) Responsive Design:

Verify that the sign-up page is responsive on different devices and screen sizes.

Example: Check if the form layout adjusts correctly on mobile phones, tablets, and desktop screens.

Verify that the form elements are touch-friendly on mobile devices.

Example: Ensure that buttons and fields are large enough to be easily tapped on a touchscreen.

I) Captcha/Verification Mechanism:

Verify that any captcha or verification mechanisms are functioning correctly.

Example: If a captcha is used, ensure that it loads correctly and accepts valid entries.

Verify that the system handles incorrect captcha entries gracefully. Example: Enter an incorrect captcha and ensure that an error message prompts the user to try again.

J) Email Verification (for services like Gmail):

Verify that an email verification step is triggered after form submission.

Example: Check if a verification email is sent to the provided email address and contains the necessary link to activate the account.

Verify that the email verification link works correctly.

Example: Click the verification link in the email and ensure it leads to a confirmation page.

K) Privacy Policy and Terms of Service:

Verify that links to the Privacy Policy and Terms of Service are available and functional.

Example: Ensure that users can access and review the Privacy Policy and Terms of Service from the sign-up page.

L) Successful Registration Confirmation:

Verify that users receive a confirmation message or are redirected to a success page after successful registration.

Example: Ensure that after submitting valid data, the user is redirected to a welcome page or receives a confirmation message.

M) Handling Session Timeouts:

Verify how the form handles session timeouts or inactivity.

Example: Ensure that users are notified if their session expires while they are filling out the form, and that they do not lose their entered data.

N) User Experience and Usability:

Verify that the sign-up page is intuitive and user-friendly.

Example: Check if the page layout guides the user smoothly through the registration process and if instructions are clear and concise.

0) Localization and Internationalization:

Verify that the sign-up page supports multiple languages (if applicable).

Example: Ensure that language options are available, and that form fields and error messages are correctly translated.