1. Elaborate on the differences between test cases and test plans with relevant examples.

Test plan is the overall roadmap that QA team creates, which tells us that what we will be testing, how we will be testing, tools we are going to use, who will be doing the work and timelines and risks if any.

Test case is a document we create, which is very detailed and step-by-step instruction are there to test one specific function.

Example:

- **Test Plan:** We will test the headphone hardware, microphone, buttons, and connectivity.
- **Test Case:** Verify that increasing the volume button increases the actual sound level.

2. A headphone is produced with a detachable microphone. The microphone works only after being connected to the headset. The headphone also has a switch with different buttons - volume, microphone on/off. Now, develop a generalised test case for a freshly produced headphone with all of the scenarios.

https://github.com/riteshrokaha/Intuji-Assignment-Task/commit/9c28b30c6178305589e80ad5a221825e5cb7424a#diff-edcc73a2b20868f6afbbb45f55857ac227616581c0ad57ae33e7e25212183455

3. Prepare a test plan for the above headphone produced.

Test Plan for the Headphone:

1. Introduction:

This test plan is about the wireless/ Bluetooth headphone with a detachable external mic. The test plan thoroughly shows the headphones, and their detachable external mic does all the normal functioning or not and displays whether the headset quality is up to premium level. Before production, the target is to check that all necessary function works and ensure the quality is at top-notch level.

2. Objective:

Our primary objective is to verify that:

- When the microphone is properly attached, it works in the best way.
- The sound coming from the headphones is distinct, clear, and noise-free.
- All the buttons and control functions of the headsets are fully working.
- There is full signal strength connectivity in relation to various devices.

3. Scope of Testing:

In Scope:

- Inspecting the audio features and checking the microphone sound is clear.
- The microphone can be attached/detached with ease.
- Inspecting the cable and connector.
- Examining the volume buttons and other controls.

- Testing the product on a phone, tablet and laptop.

Out of Scope:

- Wireless/Bluetooth testing
- Intense environmental testing
- Enduring durability testing
- Tests associated with software or drivers

4. Test Items:

We will have a test on:

• The volume features, i.e., volume increase/ decrease and the silent/mute button.

• The microphone slot and interface.
• Mic toggle button.

• Audio yield.
• Cable and 3.5 mm Jack.

5. Testing Types:

Testing will include:
• Functionality checks inspecting every feature.
• Usability tests to ensure comfort and simplicity of use.
• Compatibility tests across various devices.

6. Test Environment:

Testing will be done using:
• A laptop, tablet and a smartphone
• Playing songs and listening through headset
• Microphone testing will be done in a less disturbed room

7. Resources Required:

• Tester: 2 people
• Equipment: Headphone unit, detachable mic, test laptop, tablet, phone, songs/audio files

8. Assumptions:

• The headphone samples provided are production-ready
• Test devices are working correctly
• Mic and cable can be connected and removed easily

9. Risks:

Possible risks include:
• Faulty hardware buttons
• Cable causing sound interruptions
• Microphone distortion
• Loose connectors

10. Test Deliverables:

We will provide:
• Test cases
• Bug/issue report
• Final test summary

11. Entry Criteria:

Testing starts when:
• Headphone units are easily accessible
• Test devices and environment are ready

12. Exit Criteria:

Testing ends when:
• All test cases are completed
• Major issues are fixed or accepted
• Final reports are submitted

13. Roles and Responsibilities:

Tester 1 (Lead Tester)
• Plan and organize the test execution
• Create and update test cases
• Perform functional and compatibility tests
• Report defects and track their status
• Prepare the final test summary

Tester 2 (Support Tester)
• Perform usability checks and assist with functional tests
• Re-test fixed issues
• Help capture logs, screenshots, and test evidence
• Provide feedback on comfort, design, and overall usage

4. Explain the difference between bug and issue by explaining bug cycle steps.

Bug: A clear error in the product (e.g., mic doesn't turn on).

Also, anything that is not according to acceptance criteria or user requirement is called a bug.

Issue: A general problem or concern, not always a product problem (e.g., user finds the button placement uncomfortable).

Bug Life Cycle:

1. **New** → Tester logs the bug.
2. **Assigned** → Assigned to developer.
3. **Open** → Developer starts working on it.
4. **Fixed** → Developer resolves it.
5. **Test** → Tester checks again.
6. **Closed** → Bug is fixed.

If not fixed: moves to *Reopen*.

Bug Example in relation to the Bug Life Cycle:

The bug is identified by the QA tester when the action of connecting the microphone to the headphones and sliding the switch ON does not activate the microphone. The bug is logged with all details including steps to reproduce, expected result, actual result, severity, priority, and environment.

Once reported, the bug is assigned to the developer team or the team lead in this case, Ms. Jennifer Lawrence, for fixing. The bug status is changed to Open while the developer goes over it.

The developer then verifies the bug to confirm if it is valid. If it were invalid, it could be rejected, or if it is valid, not urgent, could be deferred. In this example, the developer confirms the mic issue is valid and accepts it.

The developer starts working on the fix, making code changes to ensure the microphone activates correctly when the switch is turned ON. This is similar to updating a system to only allow emails with letters after a previous bug allowed numeric-only emails.

The developer, after making the necessary changes, marks the bug as Fixed and moves it to the QA team for verification. Now, the bug is in Pending Retest status.

The bug is then re-tested by the QA tester to verify the fix. If the bug is successfully fixed, it will proceed to be closed; if not, it will be reopened and sent back to the developer for further changes.

Here, the QA tester verifies the functionality of the mic, confirms it is working as expected, then marks the bug as Closed, which completes the lifecycle.

5. Prepare a bug report for the failed cases of the headphones.

Bug 1:

Title: Microphone does not activate after connecting
Steps to Reproduce:

1. Connect the detachable mic to the headphone
2. Slide the mic ON/OFF switch to ON
3. Try recording or speaking

Expected Result:
The microphone should turn ON and start working immediately.

Actual Result:
Mic stays OFF and no audio input is detected.

Severity: High
Priority: High
Status: New

Environment: iPhone 14, Logitech headphone, Spotify music app

Bug 2.

Title: Volume Up button not responding
Steps to Reproduce:

1. Play audio
2. Press the Volume Up button

Expected Result:
Volume should increase.

Actual Result:
No change in sound level.

Severity: Medium
Priority: Medium
Status: New

Environment: iPhone 14, Logitech headphone, Spotify music app

6. Explain briefly about UI/UX Tests and prepare a Checklist for UI/UX Testing.

UI/UX tests make sure the product looks good, feels simple, and is easy to use.UI is User Interface Testing. User should feel comfortable using the website. With UI testing QA professionals interact with graphical interface of a software program. User Experience testing is related to smoothness, easy to use.

In UI checklist we can include many things as below,

UI/UX Checklist:

- Layout is clean and consistent
- Buttons are easy to find
- Icons/labels are clear
- No spelling errors
- All clickable areas work
- Good contrast and readable text
- Smooth flow (no confusion for users)
- Responsive and fast

7. If you encounter a technology or tool you're not familiar with during an internship project, how would you go about learning it?

Whenever I come across a new tool or technology, I usually start by quickly searching it on Google and checking the official documentation to understand the basics. Then I watch a few short YouTube tutorials or crash-course videos to get a visual idea of how it works. After that, I try small hands-on practice tasks so I can learn by doing. If I get stuck, I ask teammates or seniors for guidance. I also look at example projects or GitHub samples to see how others use it in real situations. I've found that combining quick tutorials with real practice helps me learn the fastest.

8. You can provide your personal experience here that motivates you for this work, which is why you selected QA for the internship.

I enjoy finding problems, improving products, and making things work smoothly. I'm detail-oriented, patient, and like ensuring quality before something goes to users. That mindset naturally pulled me toward QA. I find satisfaction in finding issues early and helping the team deliver something solid. QA feels like the best place for someone who enjoys both logic and user experience.