SECTION B

1. Game testing involves the systematic testing of video games to identify and fix bugs, glitches, and other issues to ensure a high-quality player experience. This involves checking for consistency, playability, functionality, and performance across various platforms and devices. The primary function of game testing is the discovery and document defects in the software.

**Importance of Game testing**

1. Early static testing helps to prevent defect by evaluating work products such as requirements, user stories, and design.
2. Early testing makes it possible to identify bugs in the code reducing cost of defect in the long run.
3. Testing helps to verify whether all specified requirements have been fulfilled.
4. Testing helps to improve the quality of the product being developed
5. Testing builds confidence in the level of quality of the product (Game) being built.
6. Early testing helps to enhance user experience and improve playability
7. It helps to determine game performance early and gives room for improvement where applicable.
8. Compatibility testing involves testing mobile games on different platforms to determine the usability of the product on this devices. To approach compatibility testing for a game. Compatibility testing involves device compatibility, OS compatibility, browser compatibility, Network etc.  
     
   In this case to carry out compatibility testing on a game app, after preparing all necessary documents for testing, I would obtain product use device data from the data team and test first on this devices before moving to other devices. For example, if data show that 70% of players play games on mobile, then priority would be given to mobile testing over other devices because that is where most users are. For a customer without a customer base or a new company, research would be carried out to determine the device base for gamers around the geographical area where the product (Game) is targeted for and testing on this devices would take priority over other devices.   
     
   The following steps would be carried out for compatibility testing  
   a. Requirement Analysis  
   b. Environment setup  
   c. Test Case design  
   d. Test Execution  
   e. Test reporting  
   f. Retesting and validation where necessary
9. Assuming I encounter a challenging bug like game crashing on specific devices, the following steps would be carried out to effectively report the challenging bug during testing:
10. **Try reproducing the bug:** The first thing is to try to reproduce the bug to confirm the consistency of the bug. Does it happen every-time, does is happen once in a while etc.
11. **Document the bug:** The second step would be to document the bug, detailed information on the device used for testing, device type, device OS, time of testing, etc
12. **Investigate the bug:** the third step is to investigate the root cause of the defect, this can be done in many ways, tester can test on different device to ensure its not specific to a device, user can test on different OS to determine if it is an OS issue etc. The more information the tester can provide to the developer, the easier it is for the developer to reproduce the issue and the quicker the fix.
13. **Report the bug:** After the tester has gathered enough evidence and if possible found the root cause of the defect. The tester reports the bug to the development team and awaits a fix.
14. When encountering a game breaking bug during testing, the first step is to document the issue thoroughly, including steps to reproduce it and error messages encountered. If possible I would try to gather logs of the apps behavior during the occurrence of the bug. Then I would try to isolate the issue by trying it out on different devices with different configurations. When the cause of the issue has been identified, I would go ahead to communicate the issue with the team, provide every necessary detail and assist in fixing the issue in any way I can.
15. Test Cases   
    **Download**   
    Verify user can download the app   
    Verify user can successfully launch the application  
    Verify on launch user is navigated to the next stage of game play  
      
    **Dashboard**Verify user can view total collectibles available on dashboard  
    Verify user can choose to buy more collectibles on dashboard  
    Verify user can view star chest  
    Verify start chest shows the total amount of stars earned  
    Verify user can exit start chest popup  
    Verify user can view the following bottom nav menus  
     Looks  
     Items  
     Home  
     Multiplayer  
     Shop  
    Verify user can navigate between this menus  
    **Gameplay**Verify user can click menu drop-down  
    Verify user can access setting from menu drop-down  
    Verify user can exit gameplay from menu drop-down  
    Verify user can view start rating progress bar  
    Verify progress bar increases as user gathers points  
    Verify user can view suggested game moves while playing game  
    Verify user can view total star earned after winning a game  
    Verify user can chose to replay a particular stage  
    Verify user can choose to go to next stage  
      
      
    **Look**  
    Verify user can edit the following on the looks page  
     Hat  
     Goggle  
     Beard  
     Cloth  
     Jewelry  
     Gender  
     Hair  
     Eyes  
     Nose  
     Lips  
    Verify user can click camera button to save avatars current look to local gallery  
    Verify empty state screen for items not currently available for edit.  
    Verify user can change color of other objects/items available for edit.  
      
    **Home**  
    Verify user can access home page  
    Verify user can view all levels available when user scrolls horizontally  
    Verify user can choose from previously unlocked stages to play.  
    Verify user cannot choose a locked stage to play  
    Verify user can view available lives on the home page  
    Verify user can click on available lives to view more options  
    Verify user can watch ad videos to add more lives  
    Verify user can buy more lives with available rubies   
    Verify user can click cancel button to close   
    Verify user can buy more rubies  
      
      
    **Multiplayer**Verify user can access multiplayer screen  
    Verify user can only unlock multiplayer when user has reached level 45  
    Verify user is merged with another gamer to play multiplayer when user chooses multiplayer.

**Shop**  
Verify user can view all available purchases on shops page   
Verify user can select an item from list  
Verify when user selects and item from list app opens google pay for android and apple pay for IOS

Verify user can complete purchase with either google pay or apple pay  
Verify after successful payment purchases are added to the users game profile  
  
  
**Settings**  
Verify user can view setting button  
Verify user can click on settings  
Verify user can turn on and off sound on settings page  
Verify user can turn on and off music on settings page  
Verify user can turn on and off vibration on settings page  
Verify user can view and click on supports button on setting page  
Verify when user clicks on support button user is redirected to email app  
Verify when user clicks on instagram button user is redirected to instagram app page of mancala adventures  
Verify when user clicks on facebook button user is redirected to facebook app page of mancala adventures  
Verify when user clicks on tiktok button user is redirected to tiktok app page of mancala adventures  
Verify user can view account ID, cloud id and app version on settings page  
Verify user can view close button to close settings page

1. Game elements are the various rules, systems and components that make up a games design and govern how a game operates. This element/mechanics work together to create the overall gameplay experience. Some of these elements/mechanics are:  
   a. Movement  
   b. Audio  
   c. Collectibles  
   d. Challenges  
   e. Opponent/Enemy  
     
   **Movement:** This involves how the player navigates and interact with the game world, this can include controls, character animations, Terrain interactions, special movement abilities etc.  
     
   **Audio:** This includes systems and techniques used to create and implement sound effects in the game. This can include sound effects, music, dialogue in the game and also spacial audio etc.  
     
   **Collectibles:** This includes gaming items, objects or achievements scattered throughout a game throughout the game world that the players can obtain, discover and collect. This collectibles can serve various purposes to enhance gameplay. Some can include extra lives, weaponry and others.  
     
   **Challenges:** Challenges refers to tasks, obstacles or goals that players must overcome within a game to progress in the game, achieve rewards, or sometimes just to test players skills. These Challenges can vary widely depending on the kind of game and the storyline of the game.  
     
   **Opponent/Enemy:** An opponent or enemy is a computer controlled character or entity that acts as an adversary to the player within the game world. They are programmed to exhibit behaviors, tactics and decision-making processes to challenge the player and create engaging gameplay experience. This enemy sometimes can also be another player on the other end (This is mostly applicable to games with multiplayer feature)