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Click or tap here to enter text.

**See the topic's slides, the activity instructions, and the Programming Test Cases.docx**

The number of rows in the tables below are for convenience; they do not indicate the number of cases expected.

**Test Cases for the Black box program**

| **Description** | **+ / − Purpose** | **Data Input** | **Expected Output** | **Actual output if unexpected** | **Success?** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| **the program's actual string handling capacity is being tested.** | **+** | **String: aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa**  **a** | **request for input prompts** | **Program**  **terminated** | **NO** | **This programme cannot handle a string of this length; the problem should be fixed by allocating an unsigned string to it.** |
| **Testing its ability to recognise cases where the position entered exceeds the length of the text entered** | **-** | **a 3** | **Enter in the right position's number.** | **The character**  **at position 3**  **is ‘ ‘.** | **NO** | **It should instead show that you have not entered the necessary amount of positions, not that it is an empty character.** |
| **Testing if**  **the**  **position** | + | **hello world b** | **Enter the**  **correct**  **number of** | **The programme has ended.** | **NO** | **A character that I enter into the input** |
| **if a character is inserted, does it indicate an error?** |  |  | **position** |  |  | **When a position is required, the programme is ended.** |
| **X in 1-5-9** | + | **5 4 3 7 1 2 9** | **X is DIAGONAL 1-5-9**  **WINNER** | **-** | **YES** | **Finally, the result appeared after I entered the numbers where I wanted to place an X or an O.** |
| **Continuing**  **after result**  **came out** | **-** | **5 4 3 7 1 2 9 8 9** | **X is DIAGONAL 1-5-9**  **WINNER** | **X is COLUMN 3-**  **6-9 WINNER!**  **X is DIAGONAL**  **1-5-9 WINNER!** | **NO** | **The game should be restarted when a player wins, but it keeps going even after I add more input and shows the same game-related results.** |
| **Once all the boxes have been filled, carry on.** | **-** | **3 5 6 9 1 2 8 4 7** | **Draw ! Game over**  **Start Again** | **X O X**  **O O X**  **X X O** | **NO** | **Even though the match is a draw and all the boxes are filled, the user is still prompted for incorrect information. By ending the current game and beginning a new one, this flaw should be closed.** |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | **String:** |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |
|  |  | Position: |  |  |  |  |

**Test Cases for the White box program.**

| **Description** | **+ / − Purpose** | **Data Inputs for X and O** | **Expected Output** | | **Actual output if unexpected** | **Success?** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Start program | Record initial condition | n/a | 1 2 3  4 5 6  7 8 9 |  |  |  | To copy a grid from terminal, hold [Alt] while click & drag to select. |
| Nominal test | + check recording of alternating moves to open grid positions | X > 1 O > 2 | **X** 2 3  4 5 6  7 8 9 | X **O** 3  4 5 6  7 8 9 |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |
|  |  | X >  O > |  |  |  |  |  |