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Use Cases

|  |  |
| --- | --- |
| ID | Use Case |
| UC\_1 | Generate four digit random number between 1 to 6. |
| UC\_2 | Verify user input and produce result |
| UC\_3 | Validate user input |
| UC\_4 | Play multiple game with new challenge everytime |

Test cases

1. **Validation:**

|  |  |  |
| --- | --- | --- |
| ID | Validation | Status |
| VAL\_1 | Generated number is not visible to the player. | Player sees asterisk instead of actual number. |
| VAL\_2 | Player must not be able to enter more or less than 4 digits. | Player is prompted with a message to enter a number with more or less than 4 digits. |
| VAL\_3 | Player should not be able to enter a number that contains digit out side of the range of 1 to 6. And only numbers should be allowed. | Player is prompted with a message to enter a number within the given range. |
| VAL\_4 | The system does not generate number that contains digit other than the range of 1 to 6. | Works as expected |
| VAL\_5 | After 10 attempts player should not be allowed more attempts | Works as expected. User is asked if he/she would like to play again. |

1. **Input/Output**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Random Number | Input | Expected output | Actual output |
| 1 | 6651 | ffff | Error message to enter only numbers. | Error message to enter only numbers. |
| 2 | 6651 | 6686868 | Error message to enter a number with only four digits | Error message to enter a number with only four digits |
| 3 | 6651 | 7777 | Error message to enter a number that does not contain number other than the range of 1 to 6. | Error message to enter a number that does not contain number other than the range of 1 to 6. |
| 4 | 6651 | 6651 | Prompt message saying “CONGRATULATIONS ! YOU ARE A REAL MASTERMIND !" and four ‘+’ signs. | Works as expected. |
| 5 | 3123 | 6432 | - - | - - |
| 6 | 3123 | 6422 | + | + |
| 7 | 3123 | 3434 | + - | + - |
| 8 | 1662 | 4564 | +  (Purpose of this test is to check the priority of positional match over matching number. In this case the third digit 6 appears twice in 1662. Hence it finds matching number before positional match, but it should be overridden since there is 6 on 3rd position as well.) | + |
| 9 | 1662 | 6666 | ++ | ++ |
| 10 | 1662 | 0000 | Should be prompt with the message “digits should be between 1 to 6” |  |
| 11 | 1662 | 1111 | + | + |
| 12 | 1662 | 3333 | No output | No output |

Note:

1. Positional match (where expected number is correct and at the right position) takes preference over only number match.
2. To update variables like number of attempts check MasterMind\_BLL/Enum/ConstantValues.cs