Hits to Terminate in 8th Edition

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# Program Description

Calculates the number of hits required to terminate an enemy unit in the upcoming 8th edition of Warhammer 40,000, allowing for multiple passes of the same section of calculation to account for potential abilities

# Input

[Statistics Variables]

* Wounds: The health of a unit, reduced by damage. Unit terminated at 0 wounds
* damage: how many wounds are removed per impacting hit
* strength: how powerful a hit is, compared to toughness to determine roll required for impacting hit
* toughness: how resilient the unit it, compared to strength to determine roll required for determining impacting hit

[Dice Variables]

* roll: used for validation loop purposes if user inputs invalid values
* save: roll required for targeted unit to ignore an impacting hit
* hit\_chance: roll required for attacking unit to hit target.

[menu\_select]

* menu\_select: Allows user to select which component

# Output

* Total\_shots: The current total of shots required to terminate enemy unit

# Test Plan Overview

System tests using black-box testing of all functions of the program. Valid as well as invalid inputs are tested.

# Test Cases

## Test Case 1: Invalid Stats

|  |  |
| --- | --- |
| **Summary** | Verify that invalid [Statistics Variables] inputs produce an error message |
| **Test Procedure** | When prompted for the number of [Statistic Variables], enter the input |
| **Test Data** | Kasotas  ratatatatatat  -1 or lower |
| **Expected Result** | Message indicating that a whole number must be entered.  Ability to re-enter the input. |

## Test Case 2: Valid Dice Inputs

|  |  |
| --- | --- |
| **Summary** | Verify that [Dice Variables] with invalid inputs |
| **Test Procedure** | When prompted for [Dice Variables], enter the input |
| **Test Data** | Asd  0 (or lower)  8 (or higher) |
| **Expected Result** | Message indicating valid dice range (including 7+ for armor save purposes) |

## Test Case 3: Testing Sample squads

|  |  |
| --- | --- |
| **Summary** | Verify that the calculation of a simple squad termination. This example simulates Imperial Guardsmen firing on a 5-man Space Marine |
| **Test Procedure** | Enter the following numbers for each variable, enter Damaging Hits, Armor Saves, and Chance to Hit once each: |
| **Test Data** | Wounds: 5  Damage: 1  Strength: 3  Toughness: 4  Armor Save: 3  Chance to Hit: 4 |
| **Expected Result** | Outputs should be:  5 hits,  15 hits after Damaging Hits  45 hits after Armor Saves and Damaging Hits  90 hits after Chance to Hit |