**Problem**

Write a program that stores the colours of the rainbow in order in an array. The program will then continually prompt the user to enter an integer from 1 to 7 or -1 to end the program.

When the user enters an integer between 1 and 7 it will output the corresponding colour from the rainbow.

For example, if the user enters 3 your program should output Yellow.

Write and test your program ensuring you test all 7 values and the exit value.

If you are unsure about the colours of the rainbow you can follow this link: <https://www.metoffice.gov.uk/learning/rainbows/colours-of-the-rainbow>.

When complete test your program with 7, 6, 5, 4, 3, 2, 1, -1. Take a screen shot of the output (you may need to increase the size of the output window to capture all 8 inputs and responses) and save it as a file in your project folder called rainbow.jpg.

**Requirements**

* R1: data must be stored in array
* R2: continually prompt user to enter an integer from 1 - 7
* R3: -1 as input end the code
* R4: 1 - 7 corresponds to the colour from rainbow
* R5: 1 = red
* R6: 2 = orange
* R7: 3 = yellow
* R8: 4 = green
* R9: 5 = blue
* R10: 6 = indigo
* R11: 7 = violet
* R12: numbers out of range 1-7 represent wrong input

**Test cases**

**Normal values**

N1: 1-7 as number (R5-R11)

N2: -1 to exit (R3)

**Invalid values**

I1: 100 as number input (R12)

I2: -5 as number input (R12)

**Boundary values**

B1: 1 first number in range (R5)

B2: 0 first number out of range (R4)

B3: 8 second number out of range (R12)

B4: 7 last number in range (R11)

**Special cases**

S1: ‘a’ type letter instead of number

**Test Plan**

Note: UT = Unit Test; IT = Integration Test

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| **Test** | **Instruction (Satisfies test cases)** | **Expected** |
| UT1 | Type 1-7 as input (N1) | red, orange, yellow, green, blue, indigo, violet |
| UT2 | Type -1 as input (N2) | Exit the program and send message |
| UT3 | Type 100 as input (I1) | Should show: Out of range! (message) |
| UT4 | Type -5 as input, negative number (I2) | Message display: Out of range! Repeat process |
| UT5 | Type 0 as first number out of range (B2) | Message display: Out of range! Repeat process |
| UT6 | Type 8 as second number out of range (B4) | Message display: Out of range! Repeat the process of looping again. |
| UT7 | Type ‘string’ as input (S1) | Error: program exited. |