Lab 2020-10-28

Write Your Name Here:

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You are writing a function for medical tests. In your graphical user interface, you would like to show results of these tests with different colors. If the test result is less than min or higher than max, your function will return "red". If the test result is between min and max, then your function will return "green"

for example

Test Name	min test value	max test value	current test value	color
Medical Test 1	10	50	30	green
Medical Test 1	10	50	52	red
Medical Test 2	20	200	30	green
Medical Test 2	20	200	220	red

Question 01

Write a suitable function name for finding color of this medical test. Write this function code and test with values given above.

Question 02

Write a script to generate this data frame. There will be 8 different medical tests and each test will have 100 results. That is data frame should have 800 rows. Min test value will be always test number * 10, while max test value will be square of test number * 50. Current test value should be uniform random number with the limits -10 of min test value and +10 of max test value. Your script should use Question 01 function to create colors. Your script also save contents of the data frame as csv file.

Question 03

Your requirements are changed. Customer right now want that If the test result is less than or equal to min, it will return "yellow" color. If the test result is higher than or equal to max, it will return "red" color. otherwise, your function will return "green" color.

Name this new function according to question 01 name + ".new" Write this new function code. Use this function to create new data frame and color2 column. Your script should also save contents of the data frame as csv file.

Question 04

Use R plotting facilities to create 2 plots of your medical tests. While plotting colors, you should use color and color2 coloumns in 2 plots. Save your plot as png file.