

American Computer Science League

2021-2022 • Contest 1: Fibonacci Clock • Senior Division

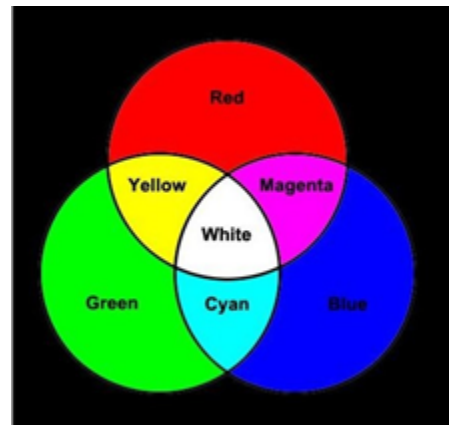
PROBLEM: ACSL's version of Philippe Chretien's "Fibonacci Clock" displays time by changing the colors displayed in 5 squares, whose side lengths correspond to the first 5 Fibonacci numbers (1, 1, 2, 3, and 5). Given the colors of the squares on the clock face, you must output the time that is represented in hh:mm:ss format. The colors will be given to you as a single string of 5 uppercase characters representing the lower 1x1 square, the upper 1x1 square, the 2x2 square, the 3x3 square, and the 5x5 square in that order. (See <https://basbrun.com/2015/05/04/fibonacci-clock/>.)



Each square has a color: red, green, blue, cyan, magenta, yellow, or white. All red squares represent only the number of hours; green squares represent only minutes; and blue squares represent only seconds. However, intersecting regions (in the Venn Diagram shown) are used to represent 2 different values: yellow represents both hours and minutes; magenta represents both hours and seconds; and cyan represents both minutes and seconds. White squares are ignored.

For both minutes and seconds, the sum of the values of the lengths is multiplied by 5 so that the number of minutes and seconds are in intervals of 5 between 0 and 60 inclusive.

However, if the number of minutes or seconds is 60 or more and/or if the number of hours is 12 or more, change it to a valid time from 00:00:00 to 11:56:55. For example, 09:60:00 would become 10:00:00 and 12:00:60 would be 00:01:00.

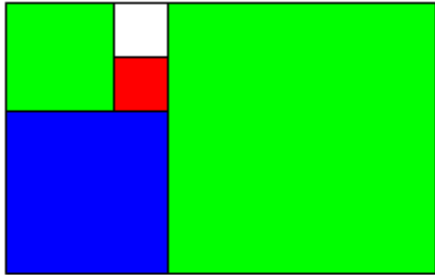


In this modified version of the clock, the time displayed on the clock in the picture above is 01:15:35. The hours are represented by the red 1x1 square. The minutes are represented by the green 3x3 square ($3 \cdot 5 = 15$), and the seconds are represented by the blue 2x2 and the blue 5x5 squares ($2 + 5 = 7$ and $7 \cdot 5 = 35$).

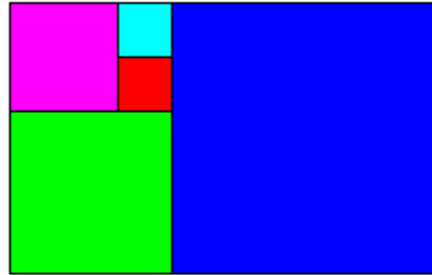
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For example, the 2 illustrations below represent the first two sample inputs. The string “RWGBG” represents 1 hour, $(2+5) * 5 = 35$ minutes, and $3 * 5 = 15$ seconds. The string “RCMGB” represents 3 hours $(1+2)$, 20 minutes $((1+3)*5)$, and 40 seconds $((5+1+2)*5)$ or 03:20:40.



RWGBG - 01:35:15



RCMGB - 03:20:40

INPUT: There are 5 sets of data. Each set has a single 5-character string of 7 possible uppercase characters, such as “RWGBG”. The possible letters are R, G, B, C, M, Y, and W. The order is the lower 1x1, the upper 1x1, the 2x2, the 3x3, and the 5x5 square. We guarantee that the input will represent a valid time from 00:00:00 to 11:56:55.

OUTPUT: For each line of data, print the time in hours, minutes, and seconds formatted as hh:mm:ss.

SAMPLE INPUT:

RWGBG
RCMGB
BYYGR
MRGBW
YYYYY

SAMPLE OUTPUT:

1. 01:35:15
2. 03:20:40
3. 08:30:05
4. 02:10:20
5. 01:00:00

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TEST DATA

TEST INPUT:

WGBGR

CGRMY

MMMMC

CCCYY

WWWWW

TEST OUTPUT:

1. 05:20:10

2. 10:35:20

3. 07:26:00

4. 09:00:20

5. 00:00:00