Innovative challenge #1 (easy)

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Challenge:

Develop an algorithm that takes an integer as input. The algorithm returns the sum of the digits of the number.

For example:

User input: 1502

Algorithm output: 8

Innovative challenge #2 (medium)

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Challenge:

Develop an algorithm that takes as input the digital clock time (in 24-hour format) in the form hh:mm. The algorithm outputs the angle in degrees between the hour and minute hands on an analog clock for that specific time.

For example:

User input: 15:15

Algorithm output: 7.5 degrees

Innovative challenge #3 (hard)

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Challenge:

Create an algorithm which will set and calculate communications between computers. When setting a communication, algorithm should take 2 parameters, for computer numbers which can connect with each other. When calculating, an algorithm should return true or false, based on information, if there is a connection between computers requested.

Remember, computers can communicate with each other also via other computers!

For example:

User input: add connection 1-2

User input: add connection 2-3

User input: add connection 4-5

User input: calculate 1-4

Output: FALSE

User input: calculate 1-3

Output: TRUE