Developing DoTwice Game

ICT1002 Programming Fundamentals

In this task, you need to design one program of performing a do_twice game. The intuitive idea is that when user wants to do one operation, your program helps him to do twice. More detailed procedure is as follows:

a.) Design one function double(x) to calculate the double (2*x) of one number x.
b.) Design one function square(x) to calculate the square of one number x.
c.) Design one function cube(x) to calculate the cube (x^3) of one number x.
d.) Design one program to ask user to input one number and another operation number (1 for Double, 2 for Square, 3 for Cube). Once user inputs these information, your program needs to perform the operation twice to user. For example, if user inputs option 1 to double the number x, your program should output double(double(x)) (e.g. 4x) for user. If the user inputs 2 to square x, your program should output square(square(x)) (e.g. x^4)). If the user inputs 3 to cube the x, your program should output cube(cube(x)) (e.g. x^9). Hint: you need to write one higher order function doTwice(func, x) to perform the function func twice for given number x.

The sample execution of the program is shown below (Note that option: 1 - double, 2 - square, 3 - cube):

Running example: *python DoTwice.py 4 1 (Your output should be in ONE line)*
16

Running example: *python DoTwice.py 4 2 (Your output should be in ONE line)*
256

Running example: *python DoTwice.py 4 4 (Your output should be in ONE line)*
It cannot be supported!