

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:

1. Note that Option: 1 - double, 2 - square, 3 – cube
2. Your output should be in ONE line

Running example:

```
C:\ICT1002\Lab5\DoTwiceGame> python2 DoTwice.py 4 1
```

```
16
```

```
C:\ICT1002\Lab5\DoTwiceGame> python2 DoTwice.py 4 2
```

```
256
```

```
C:\ICT1002\Lab5\DoTwiceGame> python2 DoTwice.py 4 4
```

```
It cannot be supported!
```