# 3 Exercise

1. Modify the **Tv** and **Remote** classes as follows:
(1) Make them mutual friends.
(2) Add a **state** variable member to the **Remote** class that describes whether the remote control is in normal or interactive mode.
(3) Add a **Remote** method that displays the mode.
(4) Provide the **Tv** class with a method for toggling the new Remote member. This method should work only if the TV is in the on state.

Write a short program that tests these new features.

```
Initial settings for 42" Tv:
TV is off
The state of Remote is Normal
The Tv is off, you can not toggle the remote state.

Adjusted settings for 42" TV:
TV is on
Volume setting = 5
Channel setting = 3
Mode = cable
Input = TV
After toggling the Remote state:
The state of Remote is Interactive
```

2.Write a function **calculateAverage()** which takes four int arguments which are marks for four courses in the semester and returns their average as a float.

The **calculateAverage()** function should take only valid range for marks which is between 0-100. If the marks are out of range throw an **OutOfRangeException** – define this exception as a class.

Invoke the **calculateAverage()** function in main function and get the following inputs and outputs:

```
Please enter marks for 4 courses:70 80 90 67
The average of the four courses is 76.75
Would you want to enter another marks for 4 courses(y/n)?y
Please enter marks for 4 courses:120 56 89 99
The parameter 1 is 120 which out of range(0-100).
Would you want to enter another marks for 4 courses(y/n)?y
Please enter marks for 4 courses:90 -87 67 92
The parameter 2 is -87 which out of range(0-100).
Would you want to enter another marks for 4 courses(y/n)?n
Bye, see you next time.
```