Software Quality Assurance

Tutorial 1

# Activity 1

## Task

Follow the principles of the **Test-Driven Development** methodology to write the following program:

Mark is an accountant, he wants to build a program to calculate the pre-tax price of products given a desirable sale (after-tax) price. For example:

If the sale price is $12 then the actual price should be $11.42 (because $11.42 plus 5% is approximately $12).

Tax rate is not always 5%, it depends on the sale price. If sale price is less than $100, tax is 5% but if sale price is $100 or higher, tax is 10%.

Write a program to get the exptected sale price from the keyboard and display the pre-tax price, rounded to 2 decimal places. The rounding method should always reduce, not increase the resulting price. The program is allowed to have an error margin of $0.01 (1 cent).

# Activity 2

## Task

Using **TDD**, write a program to calculate taxi fares from the distance (in KM) entered by user. Following are the rules to calculate taxi fares:

- The minimum fare is 10,000 VND.

- The first kilometer costs 15,000 VND.

- The next 9 kilometers (from 2nd to 10th) costs 12,000 VND.

- From the 11th, the cost is 11,000 VND and reduced by 500 VND every other 10 KMs until 7,000 VND.

The travel distance is entered by the user in KMs. The program only accepts travel distances no more accurate than 10 meters. The calculated fee is rounded up to the nearest thousand (VND).