

# Java Basics Unit

## Lesson 5 Lab 2: Interest Calculator

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## Lesson 5 Lab 2: Interest Calculator

### Requirements

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In this lab, you will write an interest calculator program that works as described in this example:

John has \$500 to invest. Sue knows of a mutual fund plan that pays 10% interest annually, compounded quarterly. That is, every three months, the principal is multiplied by 2.5% (the 10% annual rate divided by 4 because it is compounded 4 times per year) and the result is added to the principal.

More generally, the new amount each quarter is equal to:

$$\text{CurrentBalance} * (1 + (\text{QuarterlyInterestRate} / 100))$$

Your assignment is to write a program that will tell John how much money will be in the fund after 20 years. Make the program general, that is, it should take as inputs the following:

1. Annual interest rate
2. Initial amount of principal
3. The number of years the money is to stay in the fund

The output should include the following for each year:

1. The year number
2. The principal at the beginning of the year
3. The total amount of interest earned for the year
4. The principal at the end of the year

### Additional Challenge:

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1. Change the program so that interest is compounded monthly.
2. Change the program so that the user can choose from quarterly, monthly, or daily interest compound periods.