**INSTRUCTIONS:**

1. **Create an algorithm, flowchart and simple program for the following scenario.**

You are about to compute the compound interest is calculated using the following formula:

P (1 + R/n) (nt) - P

**Here P is principal amount.**

**R** is the annual interest rate.

**t** is the time the money is invested or borrowed for.

**n** is the number of times that interest is compounded per unit t, for example if interest is compounded monthly and t is in years then the value of n would be 12. If interest is compounded quarterly and t is in years then the value of n would be 4.

**Before writing the java program let’s take an example to calculate the compound interest.**

**Let’s say an amount of $2,000 is deposited into a bank account as a fixed deposit at an annual interest rate of 8%, compounded monthly, the compound interest after 5 years would be:**

P = 2000.  
R = 8/100 = 0.08 (decimal).  
n = 12.  
t = 5.

Let’s put these values in the formula.

**Compound Interest** = 2000 (1 + 0.08 / 12) (12 \* 5) – 2000 = $979.69

So, the compound interest after 5 years is $979.69.

**Note:** The program you will be creating must accept input from the user.