Monthly payment formula.

Borrow the amount of (P) from the bank with monthly interest of r $(r > 0)$

N is the number of monthly payments. (Loan term)

c : monthly payment

$$c = \frac{P \cdot r \cdot (1+r)^N}{(1+r)^N - 1}$$

Example:

You want to borrow $\$100,000$ from the bank with the yearly interest of 8%. You want to pay off in 10 years. How much do you have to pay monthly?

$P = 100,000$ (Principal)

$r = \frac{8\%}{12} =$ (monthly interest)

$N = 10 \cdot 12 = 120$ (number of monthly payment)

$$c = \frac{P\, r\, (1+r)^N}{(1+r)^N - 1} = 1213.28$$

Assignment 10:

Calculate the monthly payment for a $300,000 loan with a yearly interest of 9% and the loan's term of 30 years.