**TASK-14**

**EXPLANATION:**

Suppose you want to deposit a certain amount of money into a saving account, and then leave it alone to draw interest for next 10 years. At the end of 10 years you would like to have Rs. 1,000,000 in the account. How much do you need to deposit today to make that happen? You can use the following formula, which is known as the present value formula, to find out:

**P =**

The term in the formula are as follows:  P is the present value or the amount that you need to deposit today

1. F is the future value that you want in the account. ( in this case , F is Rs. 1,000,000)
2. r is the annual interest rate
3. n is the number of years that you plan to let the money sit in the account

Write a program that has a function named presentValue that performs this calculations. The function should accept the future value, annual interest rate, and the number of years as arguments. It should return the present value, which is the amount that you need to deposit today. Demonstrate the function in a program that lets the user experiment with different values for the formula’s term.

**INPUT:**

#include <iostream>

#include <cmath>

#include "abdullah"

using namespace std ;

double presentValue ( double , double , double ) ;

int main ()

{

bool flag = true ;

while ( flag )

{

double future\_value , annual\_interest\_rate , number\_of\_years ;

cout << "Please enter the ammount you want after reqired years : " ;

while ( ! ( cin >> future\_value ) || future\_value < 1 )

{

cin\_clear () ;

cout << "Please enter the ammount you want after reqired years : " ;

}

cout << "Please enter annual interest rate : " ;

while ( ! ( cin >> annual\_interest\_rate ) || annual\_interest\_rate < 0 )

{

cin\_clear () ;

cout << "Please enter annual interest rate : " ;

}

cout << "Please enter the number of years for your money to stay : " ;

while ( ! ( cin >> number\_of\_years ) || number\_of\_years < 0 )

{

cin\_clear () ;

cout << "Please enter the number of years for your money to stay : " ;

}

system ("cls") ;

cout << "The money to deposit today in the bank is : " << presentValue ( future\_value , annual\_interest\_rate , number\_of\_years ) << " Rs." ;

flag = continuationLoop () ;

}

}

double presentValue ( double future\_value , double annual\_interest\_rate , double number\_of\_years )

{

double present = future\_value / pow ( ( 1 + annual\_interest\_rate / 100 ) , number\_of\_years ) ;

return present ;

}

**OUTPUT:**





