

```

/*
Name: Samuel munyua
Registration number: CT/100/G/26198/25
Course: BSc IT
Unit: introduction to programming and problem solving
Description: A C program to calculate compound interest
*/

#include <stdio.h>
#include <math.h> // for pow()

int main() {
    float principal, rate, time, amount, compoundInterest;
    int n;

    // Input
    printf("Enter the principal amount: ");
    scanf("%f", &principal);

    printf("Enter the annual interest rate (in %%): ");
    scanf("%f", &rate);

    printf("Enter the time (in years): ");
    scanf("%f", &time);

    printf("Enter the number of times interest is compounded per year:
");
    scanf("%d", &n);

    // Calculation
    amount = principal * pow((1 + rate / (100 * n)), n * time);
    compoundInterest = amount - principal;

    // Output
    printf("Compound Interest = %.2f\n", compoundInterest);
    printf("Total Amount after %.2f years = %.2f\n", time, amount);

    return 0;
}

```