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program to calculate simple simple\_interest

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#include <stdio.h> //print(), scanf()

int main () {

// Function to calculate Simple Interest

float calculate\_simple\_interest(float principal, float time, float rate) {

return (principal \* time \* rate) / 100.0;

}

// Function to calculate Compound Interest

float calculate\_compound\_interest(float principal, float rate, int compounding\_frequency, float time) {

float amount = principal \* pow((1.0 + rate / compounding\_frequency), compounding\_frequency \* time);

return amount - principal;

}

int main() {

float principal, time, rate;

int compounding\_frequency;

// Input for Simple Interest

printf("Enter the principal amount: ");

if (scanf("%f", &principal) != 1) {

printf("Invalid input. Please enter a valid number.\n");

return 1;

}

printf("Enter the time in years: ");

if (scanf("%f", &time) != 1) {

printf("Invalid input. Please enter a valid number.\n");

return 1;

}

printf("Enter the rate of interest (in %%): ");

if (scanf("%f", &rate) != 1) {

printf("Invalid input. Please enter a valid number.\n");

return 1;

}

// Calculate and print Simple Interest

float simple\_interest = calculate\_simple\_interest(principal, time, rate);

printf("Simple Interest: %.2f\n", simple\_interest);

// Input for Compound Interest

printf("Enter the number of times interest is compounded per year: ");

if (scanf("%d", &compounding\_frequency) != 1 || compounding\_frequency <= 0) {

printf("Invalid input. Please enter a positive integer.\n");

return 1;

}

// Calculate and print Compound Interest

float compound\_interest = calculate\_compound\_interest(principal, rate / 100.0, compounding\_frequency, time);

printf("Compound Interest: %.2f\n", compound\_interest);

return 0;

}