1b. Write a C program to compute simple interest using user-input values for the principal amount, interest rate, and term. Display the calculated interest amount.

Description:

This program calculates the simple interest based on user-input values for the principal amount, interest rate, and time. It takes these inputs, applies the simple interest formula, and then displays the computed interest amount. The formula used for calculation is:

Simple Interest = (Principal * Rate * Time) / 100

Example:

Input:

Enter Principal Amount: 1000

Enter Interest Rate: 5

Enter Time Period (in years): 2

Output:

Simple Interest = 100.00

Algorithm:

Step 1: Start

Step 2: Declare three variables principal, rate, time, and one variable interest

Step 3: Prompt the user to enter the principal amount

Step 4: Read and store the principal amount in principal

Step 5: Prompt the user to enter the interest rate

Step 6: Read and store the interest rate in rate

Step 7: Prompt the user to enter the time period (in years)

Step 8: Read and store the time period in time

Step 9: Compute simple interest using the formula: Simple Interest = (Principal * Rate * Time) / 100

Step 10: Display the calculated simple interest

Step 11: Stop

Source Code:

```
#include <stdio.h>
int main()
{
  float principal, term, rate, simpleinterest;

 /* Input principal, rate and term */

  printf("Enter principal (amount): ");
  scanf("%f", &principal);
  printf("Enter term: ");
  scanf("%f", &term);
  printf("Enter rate: ");
  scanf("%f", &rate);

 /* Calculate simple interest */
  simpleinterest = (principal * term * rate) / 100;
 /* Print the Simple Interest */
  printf("Simple Interest = %f\n", simpleinterest);
  return 0;
}
```

Sample Output:

```
Enter principal (amount): 100
Enter term: 2
Enter rate: 9
Simple Interest = 18.000000
```