EXPERIMENT : 02

CALCULATE SIMPLE INTEREST

AIM : Write a program to calculate simple interest

LEARNING OBJECTIVE :

- To understand how to use variables and arithmetic operations in C programming for real-world applications .
- To gain proficiency in handling user input and output using scanf() and printf() statements .
- To apply the simple interest formula in program logic and code .
- To develop skills in writing, compiling, and debugging a basic financial calculation program .
- To reinforce concepts in formatted input, output, and code structure in C

TOOLS :

Sr. No.	Name Of Resources	Specification	Quantity	Remarks
1.	Hardware	Computer (I3-I5) Ram (Min 2gb)	1	For All Practical
2.	Software	Turbo C/C++	1	For All Practical

THEORY :

Simple interest is a fundamental concept in finance used to calculate interest on a principal amount over a given period at a specified rate. The formula for simple interest is:

SIMPLE INTEREST = PRINCIPAL*RATE*TIME/100

The program takes principal, rate, and time as input from the user and computes the interest according to the formula. The aim of the experiment is to demonstrate the usage of variables, arithmetic operations, and input/output functions in C programming, helping students understand how basic financial calculations are implemented in code.

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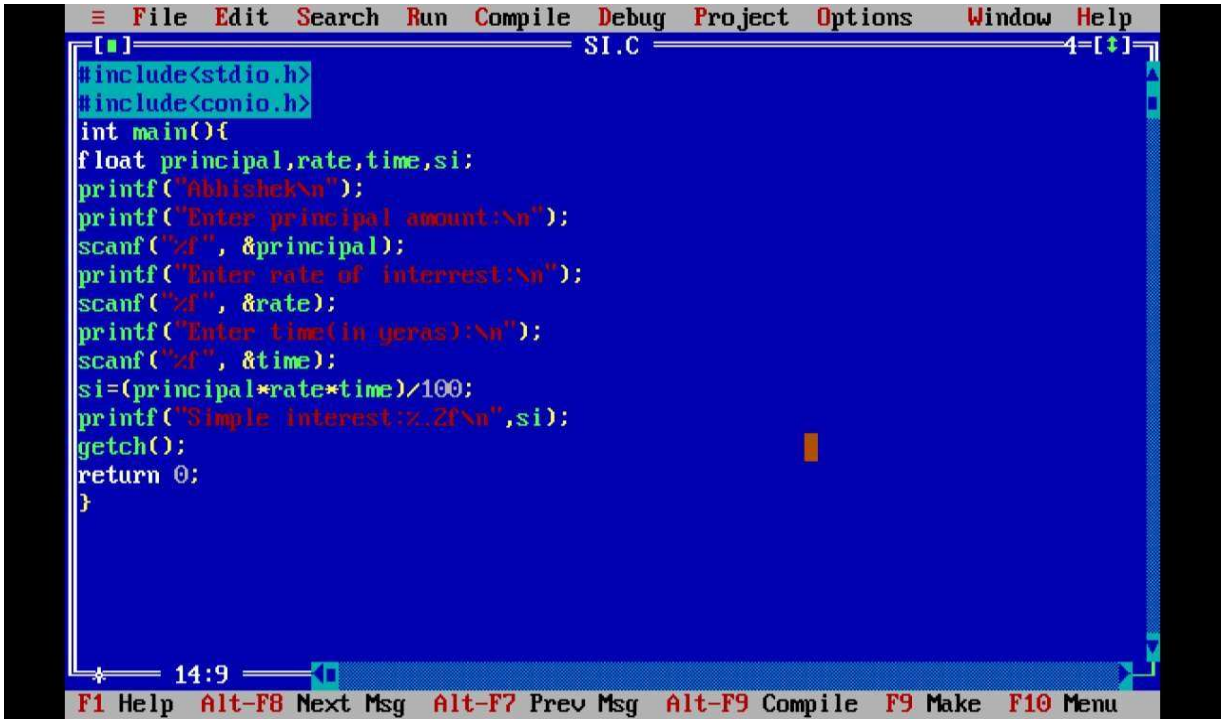
ALGORITHM:

Step 1: Start the program.
Step 2: Declare variables for principal, rate, time, and simple interest.
Step 3: Prompt the user to enter the values for principal, rate, and time.
Step 4: Read these values using the scanf() function.
Step 5: Calculate simple interest using the formula:
Simple Interest = (Principal × Rate × Time) / 100
Step 6: Display the result using printf().
Step 7: Stop the program.

Source Code:



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Output:

```
Abhishek
Enter principal amount:
1000
Enter rate of interrest:
12
Enter time(in yeras):
2
Simple interest:240.00
```

Result and Discussion:

The program was successfully executed and displayed the correct output for simple interest calculation based on user input. This experiment reinforced the concepts of input/output operations, variable declaration, and basic arithmetic in C programming. Any coding mistakes encountered during compilation, such as missing semicolons or incorrect format specifiers, were identified and corrected, helping to improve debugging skills.

Learning Outcomes:

- Understood the formula and calculation of simple interest.
- Enhanced ability to write and execute C programs involving user input and arithmetic operations.
- Learned how to apply variables and formatted output in a real-world example.

Course Outcomes:

- Develop an understanding of basic program structures and control flow in C programming .
- Apply arithmetic and logical operations to solve real-world problems using code .
- Enhance skills in formatted input and output for user-friendly applications

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CONCLUSION :

In this experiment, a C program was developed to calculate simple interest by taking input from the user for principal, rate, and time. The output was successfully displayed, validating the implementation of arithmetic operations and input/output handling. The activity strengthened programming fundamentals and increased confidence in solving practical problems using code.

VIVA QUESTIONS :

1. **What does the program output?**
   - It outputs the calculated simple interest value.
2. **What will happen if principal is 0?**
   - Simple interest will be zero.
3. **Why do you divide by 100 in the formula?**
   - To adjust the rate from percentage to fraction.
4. **Can you calculate compound interest with this code?**
   - No, this code is only for simple interest.
5. **Which header file is required?**
   - stdio.h is required for input/output function

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FOR FACULTY USE ONLY :

Correction Parameters	Formative Assessment [40%]	Timely completion of practical [40%]	Attendance/ Learning Attitude [20%]	
Marks Obtained				