SOFTWARE CRAFTMANSHIP

ASSIGNMENT 1

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Course: Btech Cse (Full Stack Development)

Ques1. Write a program to find the S.I. by user entered principle , rate and time in python using functions.

```python
# Function to calculate Simple Interest
def calculate_simple_interest(principal, rate, time):
    # Simple Interest formula: SI = (P * R * T) / 100
    simple_interest = (principal * rate * time) / 100
    return simple_interest

# Main function to get input and display the result
def main():
    # Get user input for principal, rate, and time
    principal = float(input("Enter the principal amount: ₹"))
    rate = float(input("Enter the rate of interest: "))
    time = float(input("Enter the time period (in years): "))
     # Calculate Simple Interest
    si = calculate_simple_interest(principal, rate, time)

    # Display the result
    print(f"The Simple Interest is: ₹{si:.2f}")

# Run the program
if __name__ == "__main__":
    main()
```

OUTPUT

Enter the principal amount: ₹10000

Enter the rate of interest: 5

Enter the time period (in years): 2

The Simple Interest is: ₹1000.00

Ques2. Write a program to make a calculator in python using functions?

```
# Function for addition
def add(x, y):
    return x + y

# Function for subtraction
def subtract(x, y):
    return x - y

# Function for multiplication
def multiply(x, y):
    return x * y

# Function for division
def divide(x, y):
    if y != 0:
        return x / y
    else:
        return "Error! Division by zero."

# Function to display the menu and take user input
def calculator():
    print("Select operation:")
    print("1. Add")
    print("2. Subtract")
    print("3. Multiply")
    print("4. Divide")

    # Take input from the user
    choice = input("Enter choice (1/2/3/4): ")

    # Check if the input is a valid choice
    if choice in ['1', '2', '3', '4']:
        # Take the numbers from the user
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))

        # Perform the selected operation
        if choice == '1':
            print(f"{num1} + {num2} = {add(num1, num2)}")
        elif choice == '2':
            print(f"{num1} - {num2} = {subtract(num1, num2)}")
        elif choice == '3':
```

```
            print(f"{num1} * {num2} = {multiply(num1, num2)}")
        elif choice == '4':
            print(f"{num1} / {num2} = {divide(num1, num2)}")
    else:
        print("Invalid input! Please choose a valid operation.")

# Run the calculator
if __name__ == "__main__":
    calculator()
```

OUTPUT

Select operation:

1. Add

2. Subtract

3. Multiply

4. Divide

Enter choice (1/2/3/4): 1

Enter first number: 10

Enter second number: 20

10.0 + 20.0 = 30.0

Do you want to perform another calculation? (yes/no): yes

Select operation:

1. Add

2. Subtract

3. Multiply

4. Divide

Enter choice (1/2/3/4): 2

Enter first number: 230

Enter second number: 113

230.0 - 113.0 = 117.0

Do you want to perform another calculation? (yes/no): yes

Select operation:

1. Add

2. Subtract

3. Multiply

4. Divide

Enter choice (1/2/3/4): 3

Enter first number: 234

Enter second number: 432

234.0 * 432.0 = 101088.0

Do you want to perform another calculation? (yes/no): yes

Select operation:

1. Add

2. Subtract

3. Multiply

4. Divide

Enter choice (1/2/3/4): 4

Enter first number: 568

Enter second number: 8

568.0 / 8.0 = 71.0
