▾ Experiment 3

Aim

Write a program to find the simple interest for a given value P, T and R. The program must take the input from the user.

Description

$$SI = \frac{P \times R \times T}{100}$$

P = Principal Amount

R = Rate of Interest

T = Time Period

SI = Simple Interest

Total Amount = P + SI

▾ For Loop

Python for loops are used to loop through an iterable object (like a list, tuple, set, etc.) and perform the same action for each entry. For example, a for loop would allow us to iterate through a list, performing the same action on each item in the list.

```
for var  in sequence:
    code cell
```

▾ Code

```
# Accept Pricipal, Rate, Time as inputs from user
P = int(input("Enter Principal Rate (Rs.): "))
R = int(input("Enter Rate (in %): "))
T = int(input("Enter Time (in years): "))
```

```
    Enter Principal Rate (Rs.): 2000
    Enter Rate (in %): 2
    Enter Time (in years): 4
```

```
# Calculate simple interest
SI = (P*R*T)/100
print("Simple Interest:", SI)
```

```
        Simple Interest: 160.0
```

```python
# Evaluate Total Amount at end of each year till the year entered by the user
# Use for loop
for year in range(1,T+1):
  interest = (P*R*(year))/100
  print("Total Amount at end of year ",year,"  =",P+interest)
```

```
⊡→   Total Amount at end of year  1    = 2040.0
     Total Amount at end of year  2    = 2080.0
     Total Amount at end of year  3    = 2120.0
     Total Amount at end of year  4    = 2160.0
```

```python
# Evaluate Simple Interest for 4 different Interest rates
# Use for loop
rates = [2.5, 4, 5, 6.5]
for r in rates:
  si = (P*r*T)/100
  print(f"SI at rate {r}% = {si}")
```

```
     SI at rate 2.5% = 200.0
     SI at rate 4% = 320.0
     SI at rate 5% = 400.0
     SI at rate 6.5% = 520.0
```

```python
# Use Single line for-loop to create a list containing SI for each rate in list rates
rates = [2.5, 4, 5, 6.5]
print('For rates: ',rates)
SI = [(P*r*T)/100 for r in rates]
print('SI: ',SI)
```

```
     For rates:  [2.5, 4, 5, 6.5]
     SI:  [200.0, 320.0, 400.0, 520.0]
```

▾ Conclusion

Double-click (or enter) to edit

Evaluation

Criteria	Total Marks	Marks Obtained	Comments
Concept(A)	2		
Implementation(B)	2		
Performance(C)	2		
Total	6		