

## Practice Set-1

Ques-1. Write a program for the addition of Two Numbers.

Code:

```
num1 = int(input("Enter 1st number"))  
num2 = int(input("Enter 2nd number"))  
sum = num1 + num2
```

```
print("Addition = ", sum)
```

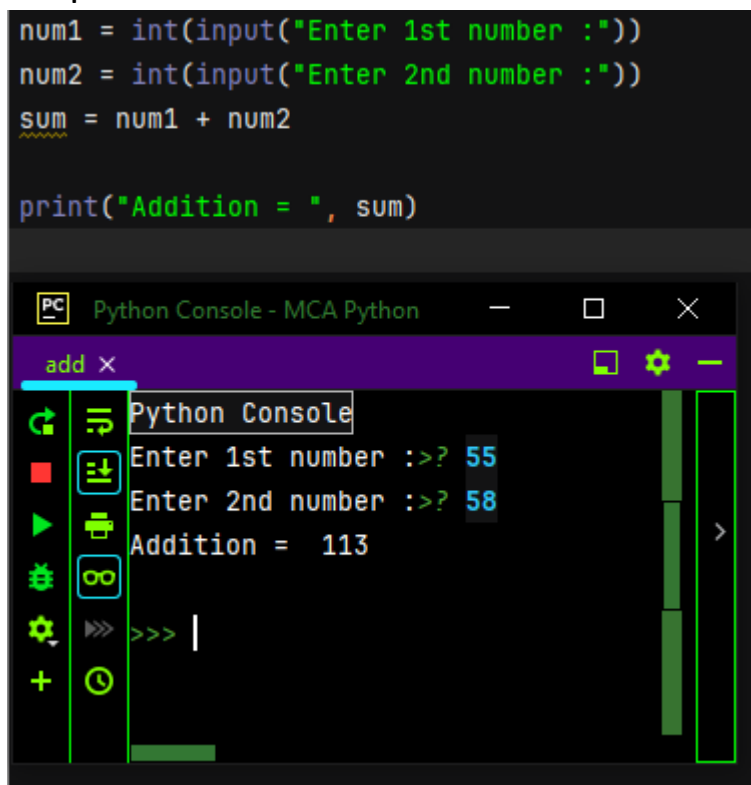
Output:

Enter 1st number: 55

Enter 2nd number: 58

Addition = 113

Snapshot:



The screenshot displays a Python IDE window titled 'Python Console - MCA Python'. The code editor at the top contains the following Python code:

```
num1 = int(input("Enter 1st number :"))  
num2 = int(input("Enter 2nd number :"))  
sum = num1 + num2  
  
print("Addition = ", sum)
```

Below the code editor, the 'Python Console' output window shows the execution results:

```
Enter 1st number :>? 55  
Enter 2nd number :>? 58  
Addition = 113  
>>> |
```

**Ques-2.** Write a program to read two numbers and print their quotient and remainder.

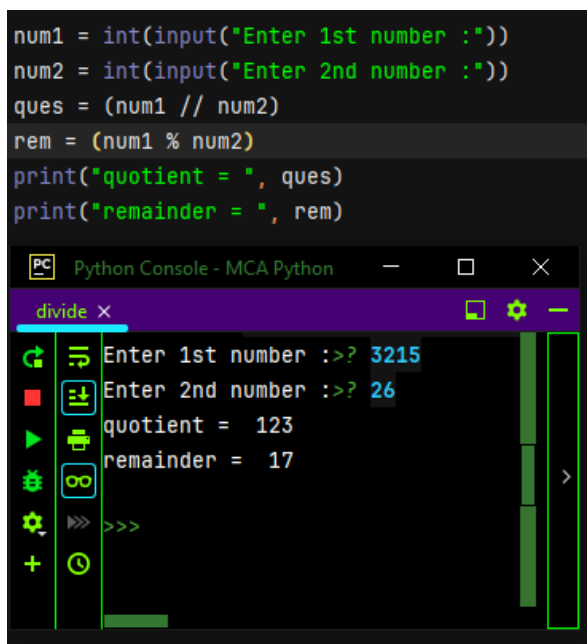
**Code:**

```
num1 = int(input("Enter 1st number"))
num2 = int(input("Enter 2nd number"))
ques = (num1 // num2)
rem = (num1 % num2)
print("quotient = ", ques)
print("remainder = ", rem)
```

**Output:**

```
Enter 1st number>? 3215
Enter 2nd number>? 26
quotient = 123
remainder = 17
```

**Snapshot:**

A screenshot of a Python console window titled "Python Console - MCA Python". The window shows the execution of a program that takes two numbers as input and calculates their quotient and remainder. The code is as follows:

```
num1 = int(input("Enter 1st number :>?"))
num2 = int(input("Enter 2nd number :>?"))
ques = (num1 // num2)
rem = (num1 % num2)
print("quotient = ", ques)
print("remainder = ", rem)
```

The output of the program is displayed below the code:

```
Enter 1st number :>? 3215
Enter 2nd number :>? 26
quotient = 123
remainder = 17
```

The console window has a dark background with green text. The input values 3215 and 26 are highlighted in blue. The output values 123 and 17 are also highlighted in blue. The window has a standard Windows title bar with minimize, maximize, and close buttons.

**Ques-3.** Write a program to find the Average of Three Numbers.

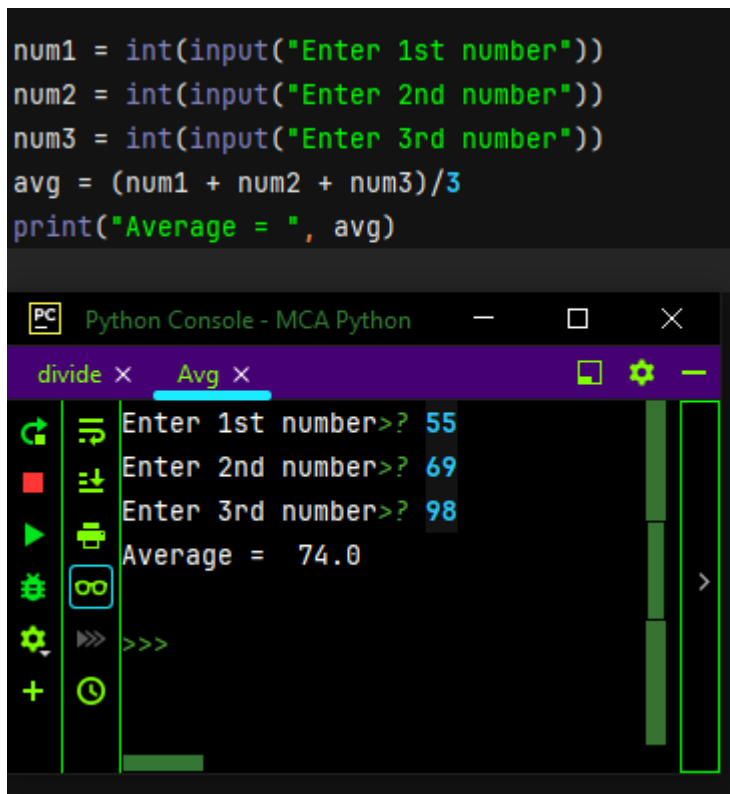
Code:

```
num1 = int(input("Enter 1st number"))
num2 = int(input("Enter 2nd number"))
num3 = int(input("Enter 3rd number"))
avg = (num1 + num2 + num3)/3
print(avg)
```

Output:

```
Enter 1st number>? 55
Enter 2nd number>? 69
Enter 3rd number>? 98
Average = 74.0
```

Snapshot:



The screenshot shows a Python console window titled "Python Console - MCA Python". The code being executed is the same as in the previous block. The input values are 55, 69, and 98, and the output is "Average = 74.0". The console window has a dark theme and a sidebar with various icons on the left. The output is displayed in a light blue font on a dark background.

```
num1 = int(input("Enter 1st number"))
num2 = int(input("Enter 2nd number"))
num3 = int(input("Enter 3rd number"))
avg = (num1 + num2 + num3)/3
print("Average = ", avg)
```

Python Console - MCA Python

divide × Avg ×

```
Enter 1st number>? 55
Enter 2nd number>? 69
Enter 3rd number>? 98
Average = 74.0
>>>
```

**Ques-4.** Write a program to Calculate Sum of 5 Subjects and Find Percentage (Max Mark in each subject is 100).

**Code:**

```
S1 = int(input("Enter S1 marks"))
S2 = int(input("Enter S2 marks"))
S3 = int(input("Enter S3 marks"))
S4 = int(input("Enter S4 marks"))
S5 = int(input("Enter S5 marks"))
Total = S1+S2+S3+S4+S5
percent = (Total/500)*100
print('Total marks is {0} and percent {1}'.format(Total, percent))
```

**Output:**

Enter S1 marks>? 55

Enter S2 marks>? 70

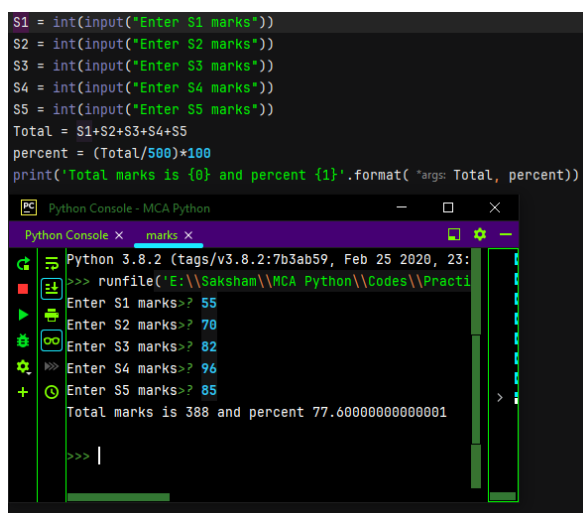
Enter S3 marks>? 82

Enter S4 marks>? 96

Enter S5 marks>? 85

Total marks is 388 and percent 77.60000000000001

**Snapshot:**

A screenshot of a Python IDE window titled 'Python Console - MCA Python'. The code editor shows the same Python program as in the 'Code' block. The console output shows the program's execution: it prompts for five marks (S1 to S5), receives inputs 55, 70, 82, 96, and 85 respectively, and then prints 'Total marks is 388 and percent 77.60000000000001'. The IDE interface includes a file explorer on the left and a command prompt on the right.

**Ques-5** Write a program to find gross salary.

**Code:**

```
bs = float(input("Enter the Basic Salary :"))
if bs < 15000:
    hra = bs * 0.1
    da = bs * 0.9
    print("HRA = ", hra)
    print("DA = ", da)
else:
    hra = 5000
    da = bs * 0.98
    print("HRA = ", hra)
    print("DA = ", da)

gs = bs + hra + da
print("Gross Salary Rs :", gs)
```

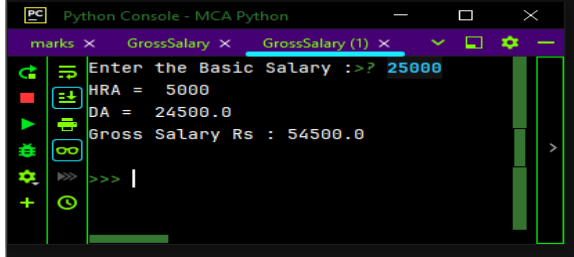
**Output:**

```
Enter the Basic Salary :>? 25000
HRA = 5000
DA = 24500.0
Gross Salary Rs: 54500.0
```

**Snapshot:**

```
bs = float(input("Enter the Basic Salary :"))
if bs < 15000:
    hra = bs * 0.1
    da = bs * 0.9
    print("HRA = ", hra)
    print("DA = ", da)
else:
    hra = 5000
    da = bs * 0.98
    print("HRA = ", hra)
    print("DA = ", da)

gs = bs + hra + da
print("Gross Salary Rs :", gs)
```



**Ques-6** Write a program to Calculate Area of Circle.

Code:

PI = 3.14

R = float(input("Enter radius of a circle :"))

area = PI\*R\*R

print("Area of circle = ", area)

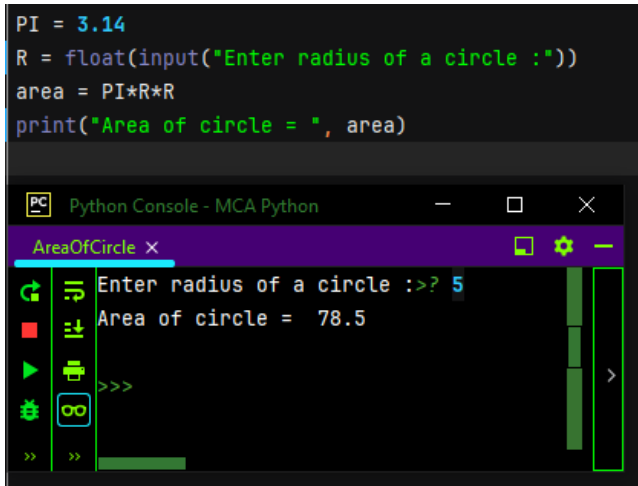
Output:

Enter radius of a circle :>? 5

Area of circle = 78.5

Snapshot:

```
PI = 3.14
R = float(input("Enter radius of a circle :"))
area = PI*R*R
print("Area of circle = ", area)
```



Ques-7 Write a program to Calculate Area of Rectangle.

Code

# Area of rectangle

l = 40

b = 30

area = l \* b

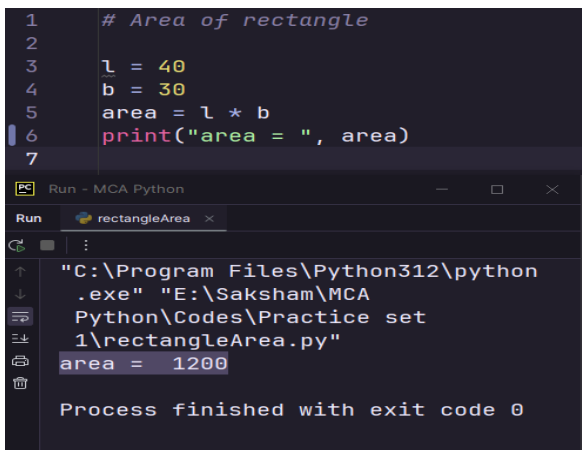
print(area)

Output:

area = 1200

Snapshot:

```
1 # Area of rectangle
2
3 l = 40
4 b = 30
5 area = l * b
6 print("area = ", area)
7
```



Ques-8 Write a program to Calculate Area of Square

Code:

```
# Area of square
```

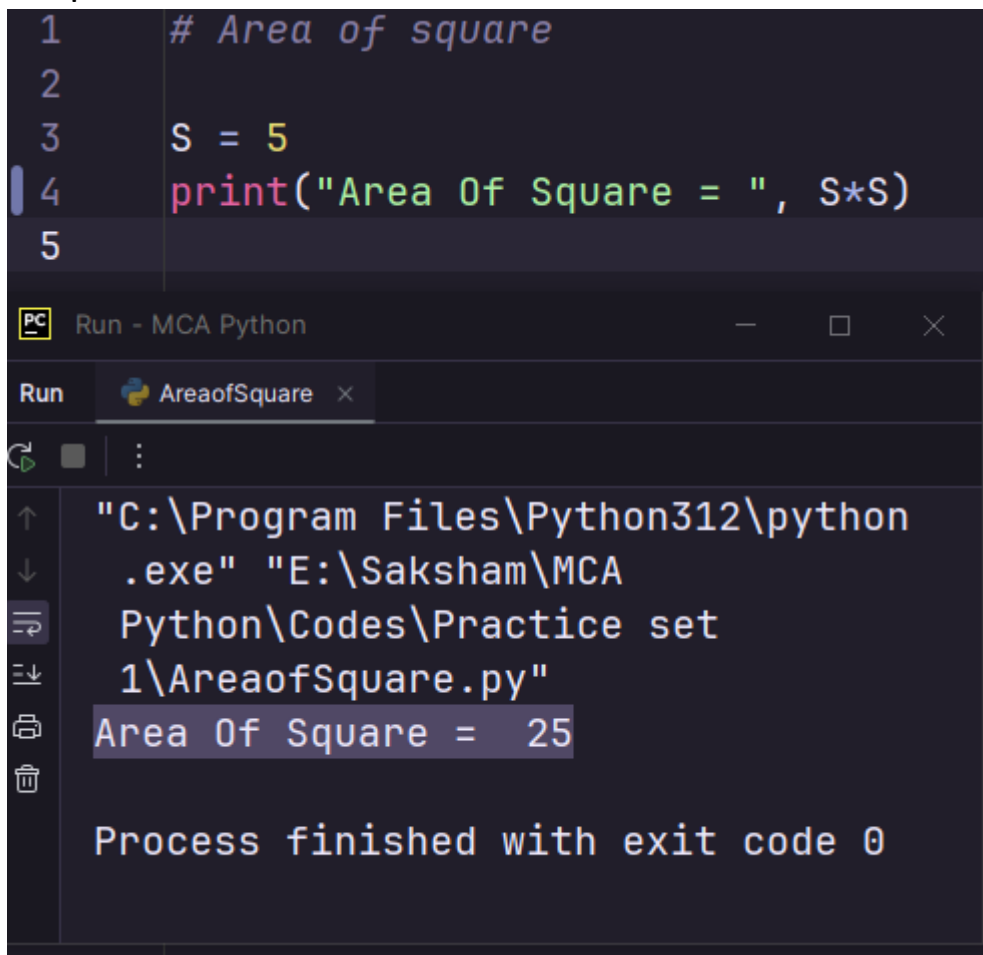
```
S = 5
```

```
print("Area Of Square = ", S*S)
```

Output:

Area Of Square = 25

Snapshot:



The screenshot displays a Python IDE interface. The top section shows a code editor with the following code:

```
1 # Area of square
2
3 S = 5
4 print("Area Of Square = ", S*S)
5
```

Below the code editor is a terminal window titled "Run - MCA Python". It shows the execution of the program:

```
Run
AreaofSquare x
"C:\Program Files\Python312\python
.exe" "E:\Saksham\MCA
Python\Codes\Practice set
1\AreaofSquare.py"
Area Of Square = 25
Process finished with exit code 0
```



Ques-9 Write a program to swap the values of two variables

Code:

```
x = int(input("Enter 1st number :"))  
y = int(input("Enter 2nd number :"))
```

```
print("Before Swapping :", x, y)
```

```
z = x
```

```
x = y
```

```
y = z
```

```
print("After Swapping :", x, y)
```

Output:

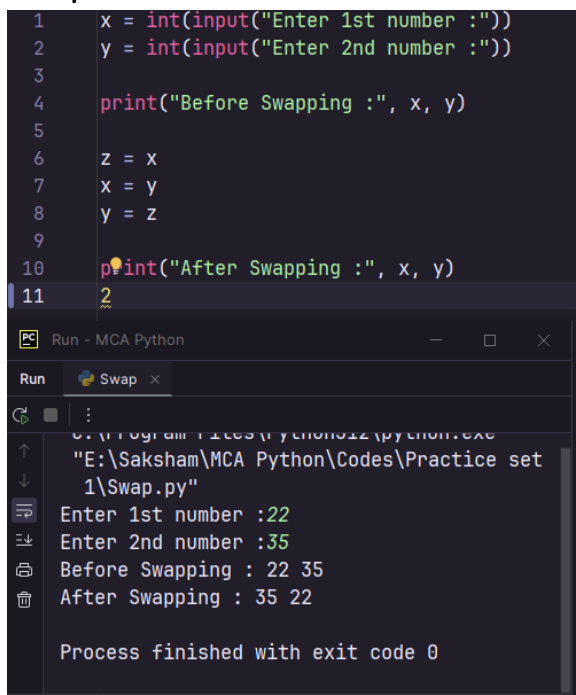
Enter 1st number :22

Enter 2nd number :35

Before Swapping : 22 35

After Swapping : 35 22

Snap:



```
1 x = int(input("Enter 1st number :"))  
2 y = int(input("Enter 2nd number :"))  
3  
4 print("Before Swapping :", x, y)  
5  
6 z = x  
7 x = y  
8 y = z  
9  
10 print("After Swapping :", x, y)  
11
```

Run - MCA Python

Run Swap

C:\Program Files\Python12\python.exe  
"E:\Saksham\MCA Python\Codes\Practice set  
1\Swap.py"

Enter 1st number :22  
Enter 2nd number :35  
Before Swapping : 22 35  
After Swapping : 35 22

Process finished with exit code 0

Ques-10 Write a program to swap the values of two variables without using third variable

Code:

```
# Swapping two variables without a third variable using arithmetic operations
```

```
# def swap_variables(a, b):
```

```
#     a = a + b
```

```
#     b = a - b
```

```
#     a = a - b
```

```
#     return a, b
```

```
# Example usage
```

```
x = int(input("Enter 1st number :"))
```

```
y = int(input("Enter 2nd number :"))
```

```
print("Before Swapping :")
```

```
print("x =", x)
```

```
print("y =", y)
```

```
x = x + y
```

```
y = x - y
```

```
x = x - y
```

```
# x, y = swap_variables(x, y)
```

```
print("After swapping:")
```

```
print("x =", x)
```

```
print("y =", y)
```

Output:

```
Enter 1st number :22
```

```
Enter 2nd number :36
```

Before Swapping :

x = 22

y = 36

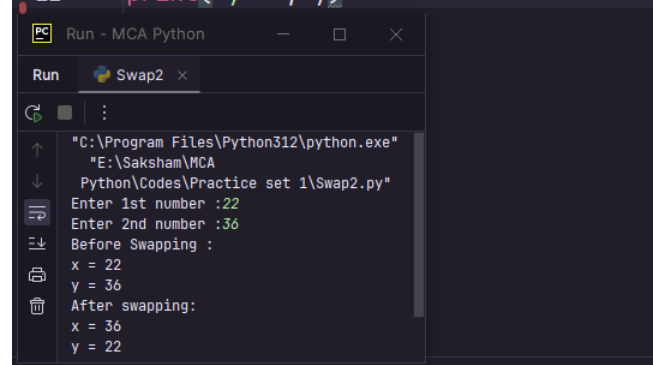
After swapping:

x = 36

y = 22

Snap:

```
1 x = int(input("Enter 1st number :"))
2 y = int(input("Enter 2nd number :"))
3 print("Before Swapping :")
4 print("x =", x)
5 print("y =", y)
6 x = x + y
7 y = x - y
8 x = x - y
9 # x, y = swap_variables(x, y)
10 print("After swapping:")
11 print("x =", x)
12 print("y =", y)
```



Run - MCA Python

Run Swap2 x

Enter 1st number :22  
Enter 2nd number :36  
Before Swapping :  
x = 22  
y = 36  
After swapping:  
x = 36  
y = 22

Ques-11 Write a program to Compute Simple Interest

Code:

```
p = float(input("Enter principal amount :"))  
r = float(input("Enter rate of interest :"))  
t = float(input("Enter time :"))
```

$$SI = (p*r*t)/100$$

```
print ("Simple Interest = ", SI)
```

Output:

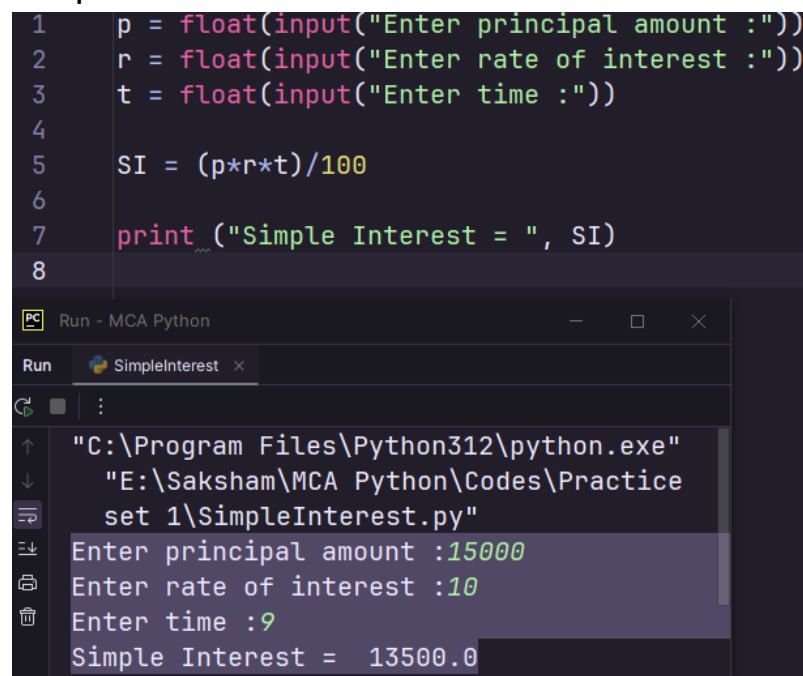
Enter principal amount :15000

Enter rate of interest :10

Enter time :9

Simple Interest = 13500.0

Snap:



```
1  p = float(input("Enter principal amount :"))  
2  r = float(input("Enter rate of interest :"))  
3  t = float(input("Enter time :"))  
4  
5  SI = (p*r*t)/100  
6  
7  print ("Simple Interest = ", SI)  
8
```

Run - MCA Python

Run SimpleInterest x

"C:\Program Files\Python312\python.exe"  
"E:\Saksham\MCA Python\Codes\Practice  
set 1\SimpleInterest.py"

Enter principal amount :15000  
Enter rate of interest :10  
Enter time :9  
Simple Interest = 13500.0