Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Aim: Write a program to perform different arithmetic operations on numbers in python.

IDE:

Arithmetic operations are fundamental to programming, and Python provides straightforward operators to perform these calculations. Let's revisit these basic arithmetic operations, which you've likely encountered in your math classes, and see how they can be used in Python.

Types of Arithmetic Operators in Python

Arithmetic operators in Python are fundamental tools used for performing basic mathematical operations. Here are the primary types of arithmetic operators:

- Addition
- Subtraction
- Multiplication
- Division
- Modulus
- Exponentiation
- Floor Division

Let's take a closer look at each of these operators to understand them better.

Addition

The addition operator in Python is “+”. It is used to add or sum two values.

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

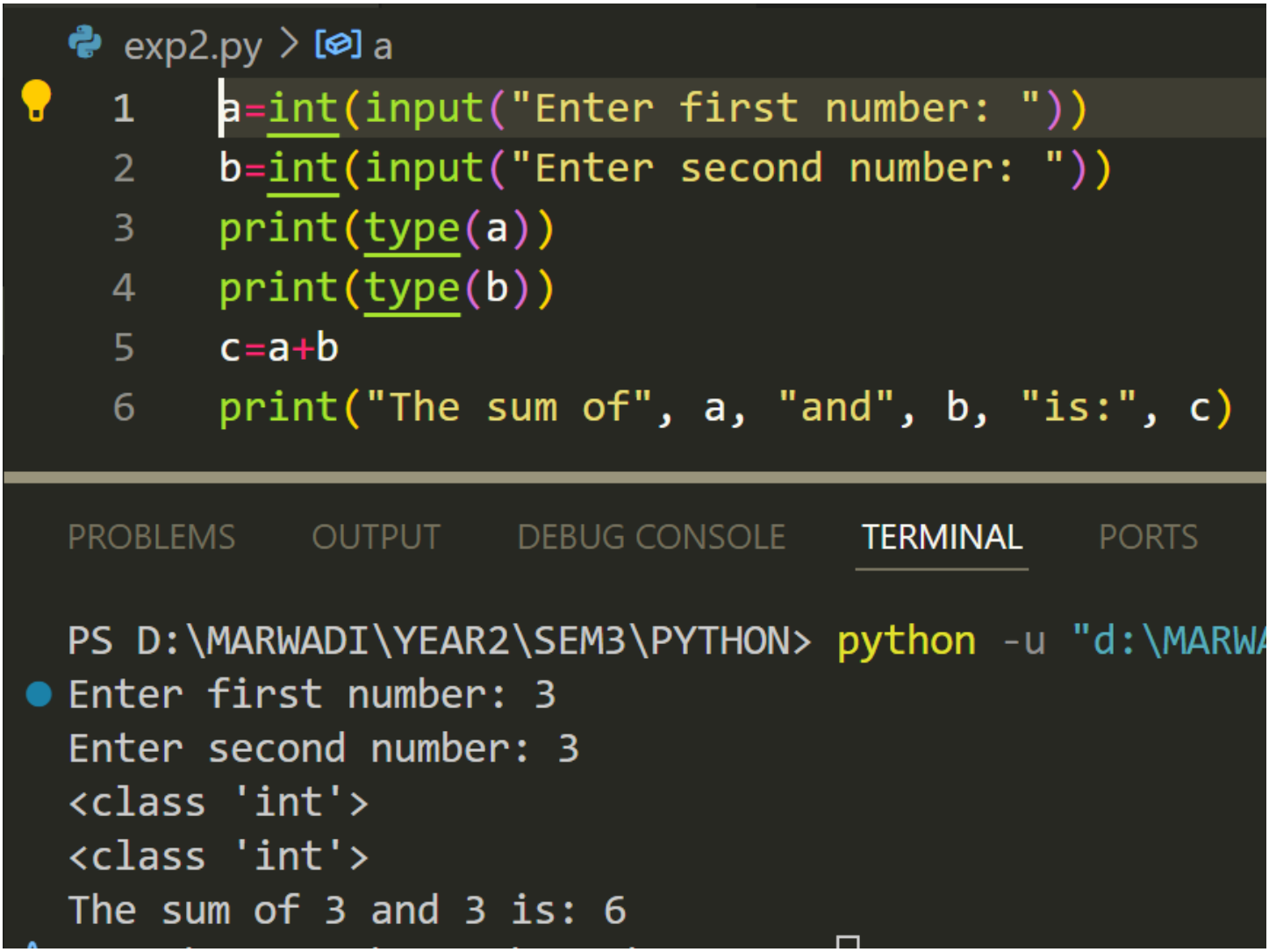
Python Code:

num1, num2 = 10, 30

sum= num1+num2

print("The sum of",num1,"and",num2,"is:",sum)

Output:



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Subtraction

The subtraction operator in Python is "-". It is used to subtraction or difference two values.

num1, num2 = 10, 30

sub= num1-num2

print("The subtraction of",num1,"and",num2,"is:",sub)

output:

exp2.py > ...

```
1   a=int(input("Enter first number: "))
2   b=int(input("Enter second number: "))
3   print(type(a))
4   print(type(b))
5   c=a-b
6   print("The subtraction of", a, "and", b, "is:", c)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Enter first number: 2
Enter second number: 3
<class 'int'>
<class 'int'>
The subtraction of 2 and 3 is: -1
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Multiplication

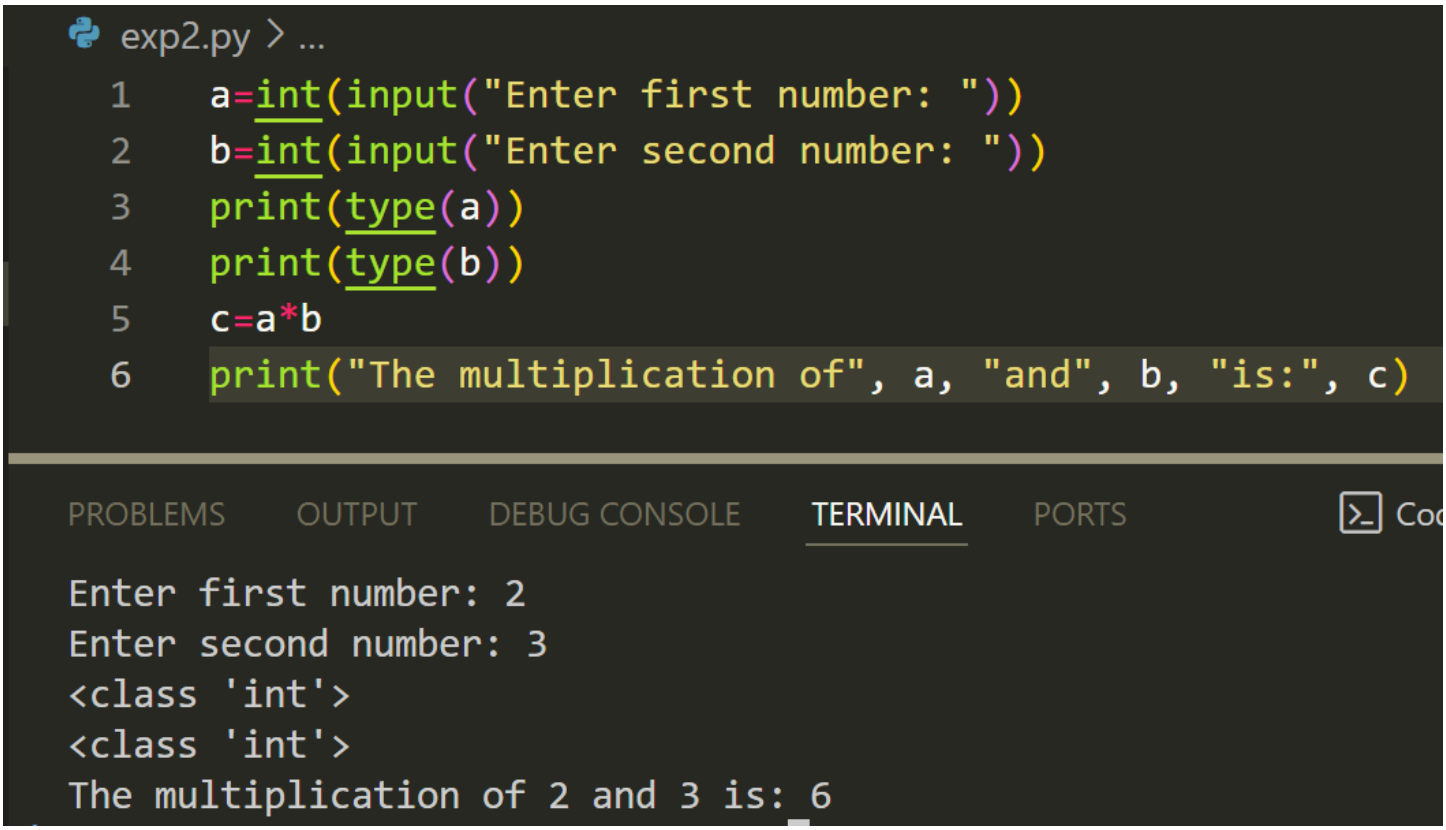
The Arithmetic Operator in Python for multiplication is "*". With this operator, we can find the product of two values.

num1, num2 = 10, 30

product= num1*num2

print("The product of",num1,"and",num2,"is:",product)

Output:



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Division

The "/" operator is the division operator in Python. We can find the quotient when the first operand is divided by the second.

```
num1, num2 = 10, 30

div = num1/num2

print("The division of",num1,"and",num2,"is:",div)
```

Output:

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

exp2.py > ...

```
1    a=int(input("Enter first number: "))
2    b=int(input("Enter second number: "))
3    print(type(a))
4    print(type(b))
5    c=a/b
6    print("The division of", a, "and", b, "
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL POR

```
PS D:\MARWADI\YEAR2\SEM3\PYTHON> python -u "d:\
Enter first number: 1
Enter second number: 3
<class 'int'>
<class 'int'>
The division of 1 and 3 is: 0.3333333333333333
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Modulus

The "%" operator is the division operator in Python. Using this, we can find the remainder when the first operand is divided by the second.

num1, num2 = 10, 30

rem = num1%num2

print("The reminder of",num1,"and",num2,"is:",rem)

output:

```
exp2.py > ...
1   a=int(input("Enter first number: "))
2   b=int(input("Enter second number: "))
3   print(type(a))
4   print(type(b))
5   c=a%b
6   print("The reminder of", a, "and", b, "is:", c)
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Enter second number: 3
<class 'int'>
<class 'int'>
The reminder of 3 and 3 is: 0
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Exponentiation

The exponentiation operator in Python is denoted by "**". It is used to raise the power of the first operand to the power of the second.

num1, num2 = 10, 3

exp = num1**num2

print("The exponentiation of",num1,"and",num2,"is:",exp)

Output:

```
exp2.py > ...
1   a=int(input("Enter first number: "))
2   b=int(input("Enter second number: "))
3   print(type(a))
4   print(type(b))
5   c=a**b
6   print("The exponentiation of", a, "and", b, "
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Enter second number: 3
Enter second number: 3
<class 'int'>
<class 'int'>
The exponentiation of 3 and 3 is: 27
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Floor Division

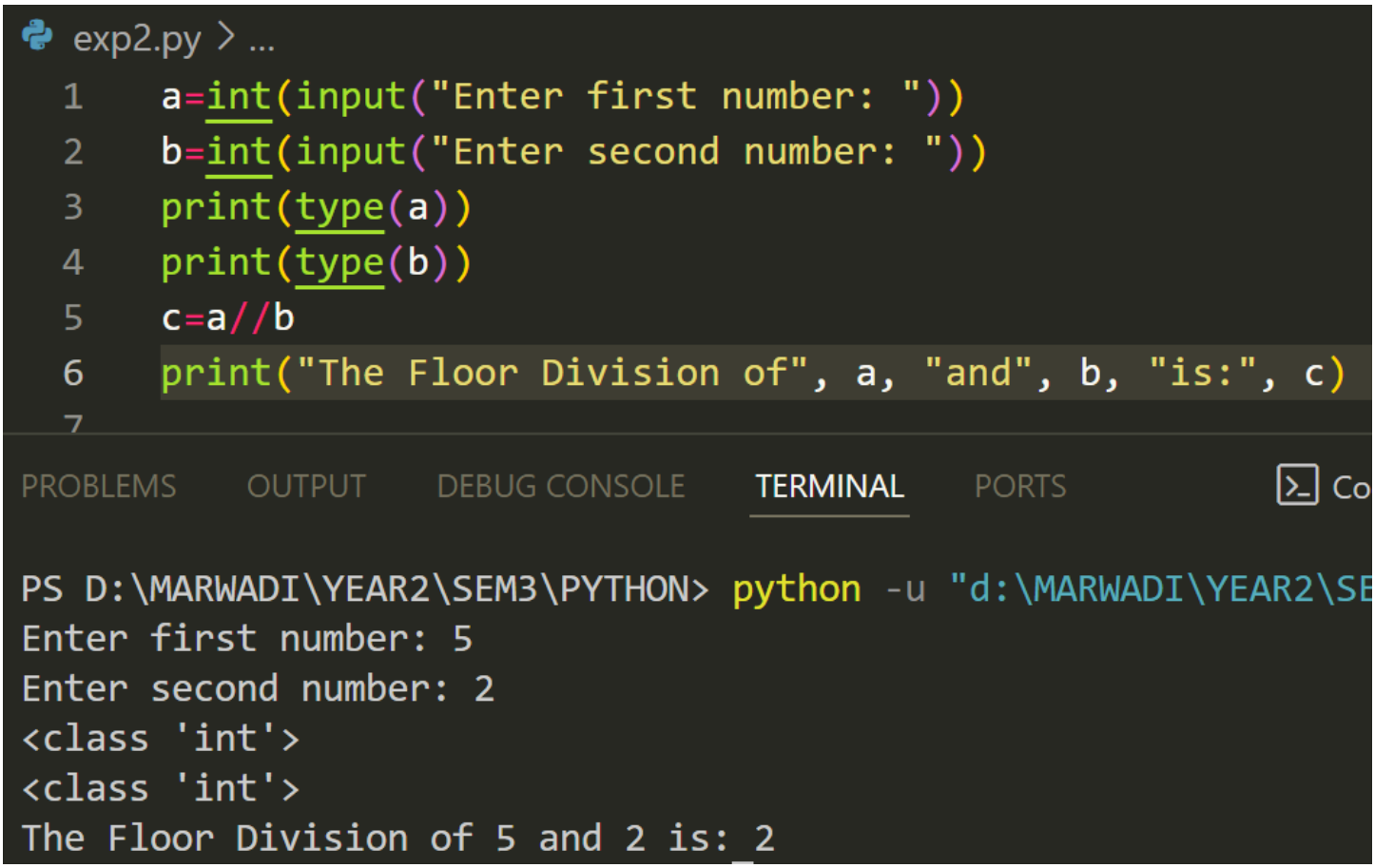
It is denoted by "//" in Python. We use it to find the floor of the quotient when the first operand is divided by the second.

num1, num2 = 10, 3

floordiv = num1//num2

print("The Floor Division of",num1,"and",num2,"is:",floordiv)

Output:



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Task:

```
exp2.py > ...
1    x = 8
2    y = 3
3    mod = x % y
4    print (mod)
```

PROBLEMS TERMINAL ...

```
PS D:\MARWADI\YEAR2\SEM3\PYTHON> python -u "d:\MARWADI\YEAR2\SEM3\PYTHON\exp2.py"
2
PS D:\MARWADI\YEAR2\SEM3\PYTHON>
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

exp2.py > ...

```
1   a = -5
2   b = 2
3   res1 = a % b
4   print (res1)
5
6   m = 5
7   n = -2
8   res2 = m % n
9   print (res2)
10
11  e = -5
12  f = -2
13  res3 = e % f
14  print (res3)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Coc

```
1
-1
-1
```

Order of precedence of Arithmetic operators in Python

Arithmetic Operators in Python follow a basic order of precedence. When more than one operator is used, they are executed according to this order:

Operator	Purpose
()	Parentheses

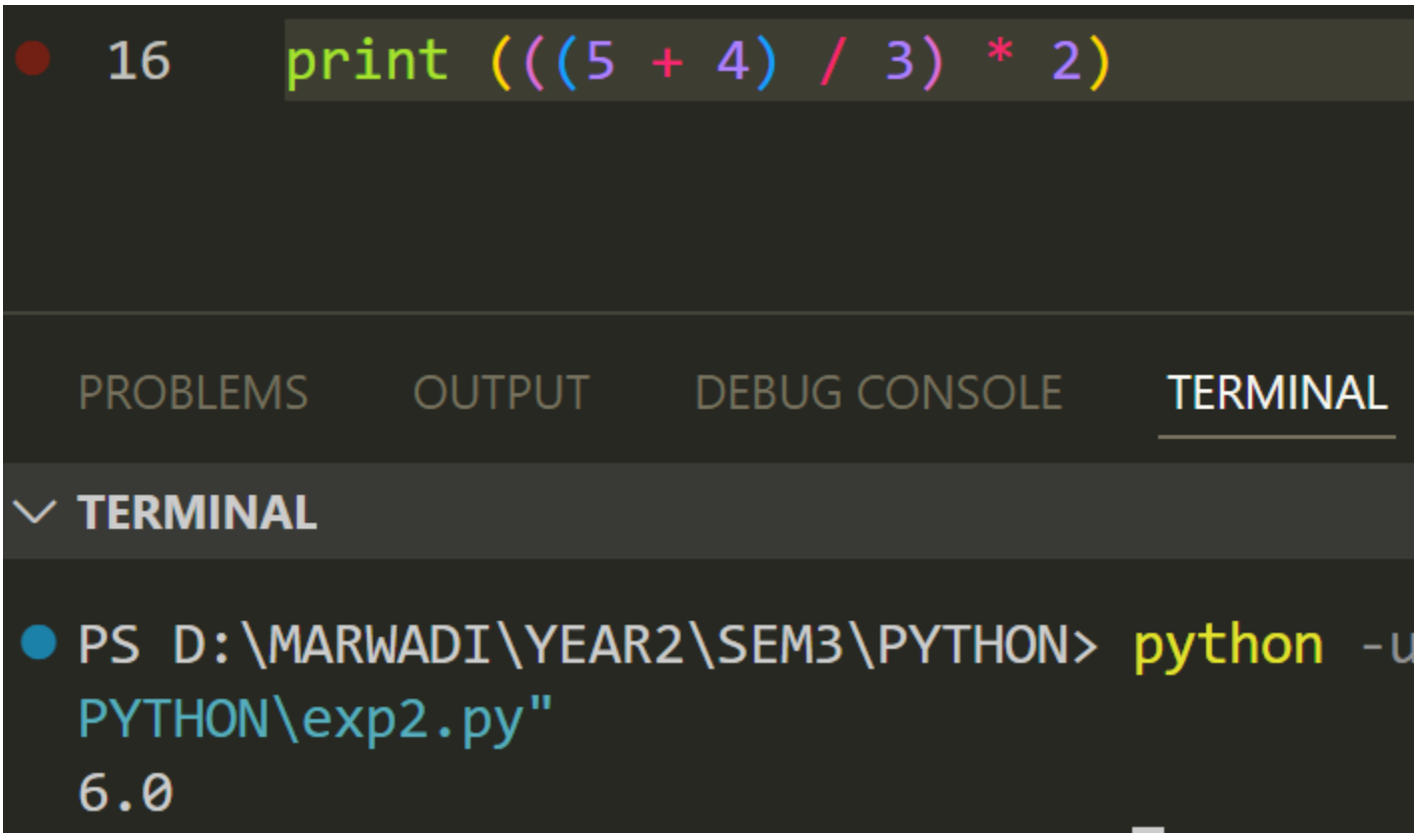
Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

**	Exponent
%, *, /, //	Modulos, Multiplication, Division and Floor division
+, -	Addition and Subtraction

The operator listed at the top of the table will be executed first.

print (((5 + 4) / 3) * 2)

Output

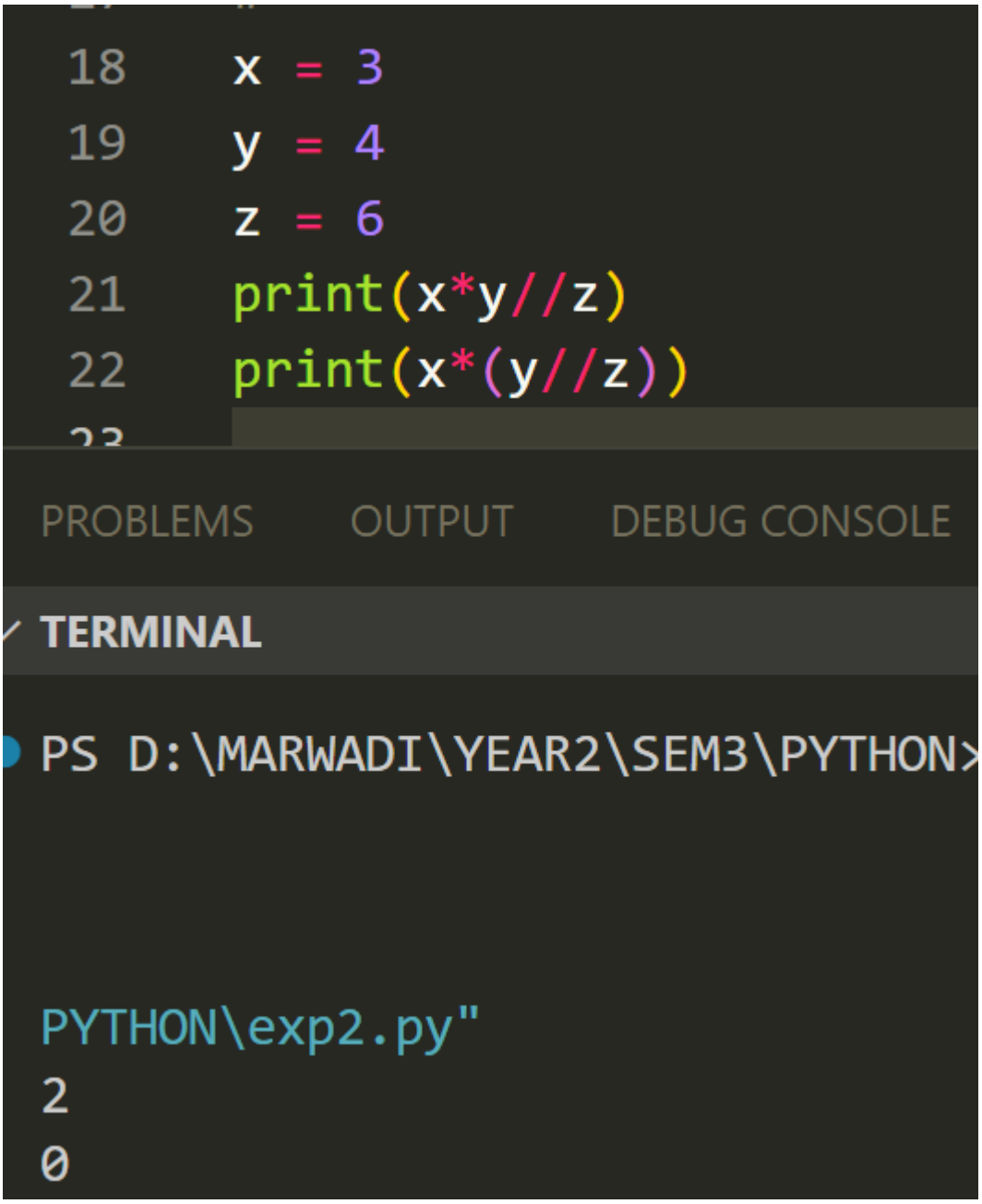


Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

```
x = 3

y = 4

z = 6

print(x*y//z)

print(x*(y//z))
```

Output:

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

x = 2

y = 3

z = 2

print(x**y**z)

print((x**y)**z)

Output

```
24  x = 2
25  y = 3
26  z = 2
27  print(x**y**z)
28  print((x**y)**z)
29
PROBLEMS  OUTPUT  DEBUG CONSOLE
TERMINAL
PYTHON\exp2.py"
512
64
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Post Lab

Write a python code for calculating the Area and Perimeter of a Rectangle

```
2_postlab_a.py > length
1   length = float(input("Enter length of rectangle: "))
2   breadth = float(input("Enter breadth of rectangle: "))
3   area_rectangle = length * breadth
4   perimeter_rectangle = 2 * (length + breadth)
5   print("Area of Rectangle:", area_rectangle)
6   print("Perimeter of Rectangle:", perimeter_rectangle)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
TERMINAL
Enter length of rectangle: 5
Enter breadth of rectangle: 4
Area of Rectangle: 20.0
Perimeter of Rectangle: 18.0
```

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Write a python code for testing if a number is even or odd

Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

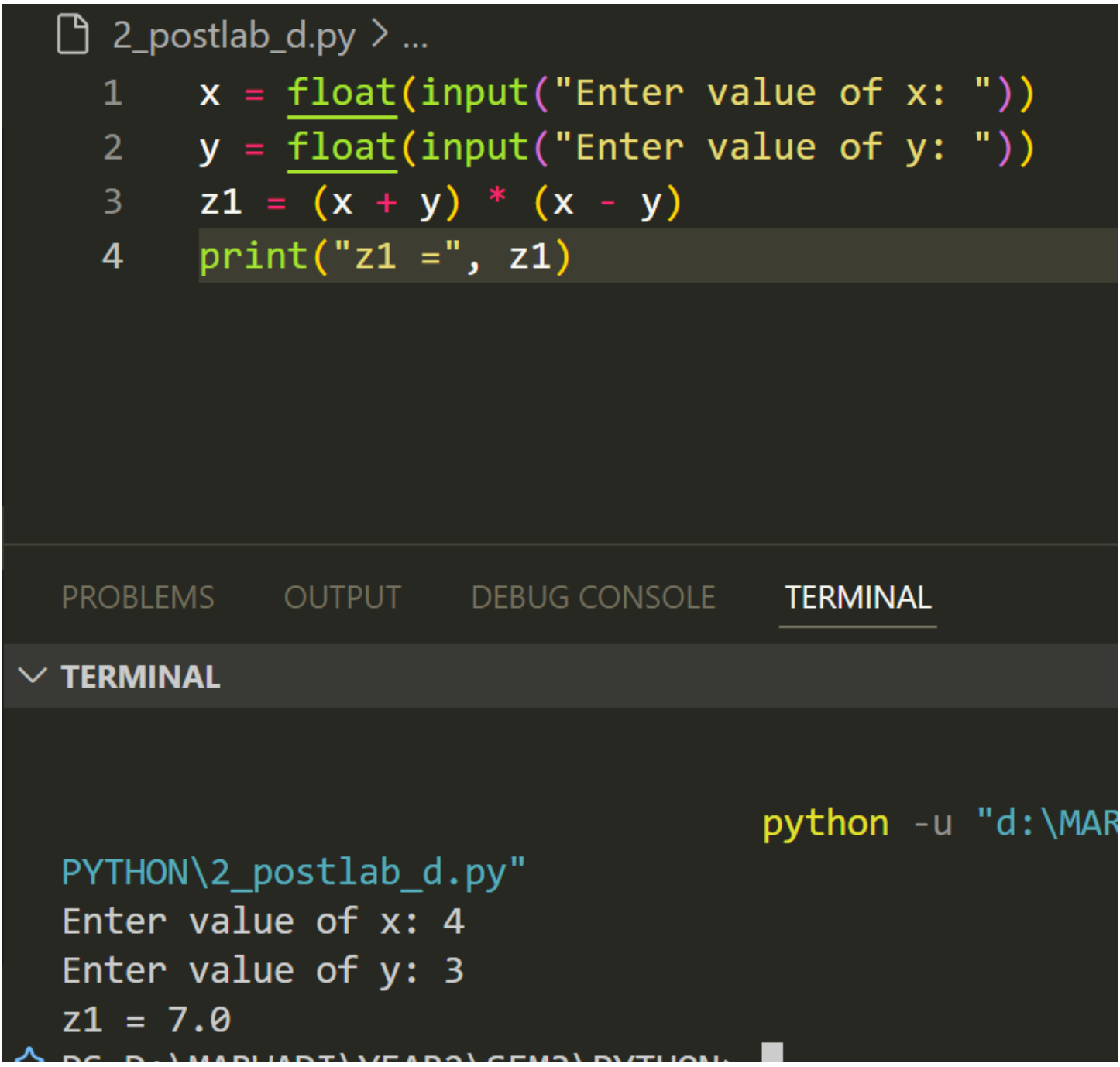
Write a python code for calculate the area and volume of the Cube.

```python
side = float(input("Enter side of cube: "))
area_cube = 6 * (side ** 2)
volume_cube = side ** 3
print("Area of Cube:", area_cube)
print("Volume of Cube:", volume_cube)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

TERMINAL

python -u "d:\MARWA
PYTHON\2_postlab_c.py"
Enter side of cube: 3
Area of Cube: 54.0
Volume of Cube: 27.0
```

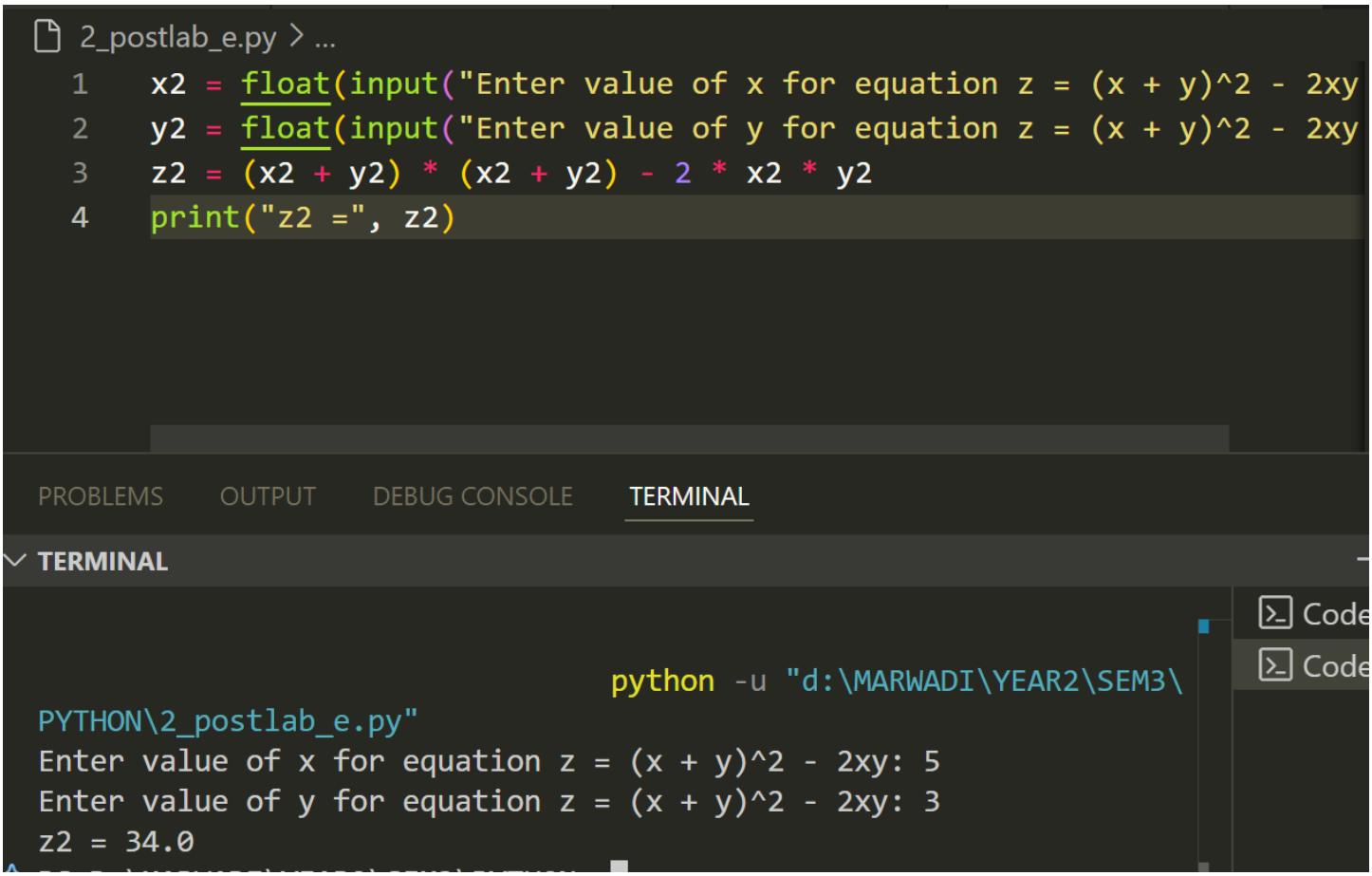
Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Write a python code to solve the equation z = (x+y)*(x-y)



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Write a python code to solve the equation z = (x+y)*(x+y)-2xy; write a comment on it.



Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Write a program to perform different arithmetic operations on numbers in python.	
Experiment No: 02	**Date:**	**Enrollment No:92400133189**

Write a python code for Converting Celsius to Fahrenhit

```
2_postlab_f.py > ...
1   celsius = float(input("Enter temperature in Celsius: "))
2   fahrenheit = (celsius * 9/5) + 32
3   print("Fahrenheit:", fahrenheit)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

TERMINAL

```
                                    python -u "d:\MARWADI\YEAR2\SEM3\
PYTHON\2_postlab_f.py"
Enter temperature in Celsius: 45
Fahrenheit: 113.0
```

Github : [PythonPostLab/2 at main · Om-Lathigara/PythonPostLab]