Python Basics: Arithmetic Operations & Variable Assignment

1. What are variables and why are they called variables? Assign two numbers to variables `a` and `b`, and print their sum.

Answer:

* A variable is like a named container (or box) in a computer’s memory where you can **store** information and **change** it later.
* It’s called a *variable* because the value inside that box can change, even though the label (name) stays the same.

a=25

b=6

print(a+b)

Output: 31

2. Write a Python program to subtract two numbers and print the result.

Program:

a=15

b=4

Print(a-b)

Output: 11

3. Multiply two variables and store the result in a third variable. Print all three.

var1=12

var2=6

var3=var1\*var2

print(var1)

print(var2)

print(var3)

Output:

12

6

72

4. Divide 10 by 3 and print the result with and without decimals.

a=10

b=3

Print(a/b)

Print(a//b)

Output:

3.3333333333333335

3

5. Use floor division `//` to divide 17 by 4. Print the output.

a=17

b=4

Print(a//b)

Output:

4

6. Use the modulo operator `%` to check the remainder when 25 is divided by 6.

a=25

b=6

Print(a//b)

Output:

1

7. Calculate and print the square of a number stored in a variable.

num=4

Print(num\*\*2)

Output:

16

8. Assign values to three variables `x`, `y`, `z` and compute the average.

x=15

y=6

z=8

average=x+y+z/3

print(average)

Output:

23.6666666666666689.

Take a number and find its cube using the `\*\*` operator.

a=5

b=3

print(a\*\*b)

Output:

125

10. Create two variables `length` and `width`. Calculate and print area of a rectangle.

length=10

width=5

area of rectangle=length\*width

Print(area of rectangle)

Output:

50

11. Assign a variable `total\_marks = 450` and `obtained\_marks = 375`. Find percentage.

total\_marks = 450`

obtained\_marks = 375

percentage=(obtained\_marks/total\_marks)\*100

Print(percentage)

Output:

93.75

12. Write a Python statement that calculates `(a + b) \* c` for some values of a, b, and c.

a=24

b=6

c=5

equation=(a+b)\*c

print(equation)

Output:

150

13. Draw and show how reassignment changes variable reference to a memory block.

**25**

**a**



**26**