21 May

Python Basic - 2

Q.1. Create two int type variables, apply addition, subtraction, division and multiplications and store the results in variables. Then print the data in the following format by calling the variables:

First variable is \_\_ & second variable is \_\_.

Addition: \_\_ + \_\_ = \_\_

Subtraction: \_\_ - \_\_ = \_\_

Multiplication: \_\_ \* \_\_ = \_\_

Division: \_\_ / \_\_ = \_\_

**A:**

**num1 = int(input("Enter first number:"))**

**num2 = int(input("Enter second number"))**

**print("Addition:",num1 + num2)**

**print("Subtraction:",num1 - num2)**

**print("Multiplication:",num1 \* num2)**

**print("Division:",num1 / num2)**

**Output:**

**Enter first number:20**

**Enter second number5**

**Addition: 25**

**Subtraction: 15**

**Multiplication: 100**

**Division: 4.0**

Q.2. What is the difference between the following operators:

(i) ‘/’ & ‘//’

(ii) ‘\*\*’ & ‘^’

**A:**

**(i) ‘/’ & ‘//’**

### **1. Performing division using the ‘/’ operator**

**This method of division is considered as the ‘classic division’. The ‘/’ single slash carries out the float division. The output of this operator is always a quotient with a float datatype. The output remains float even if the input numbers are integer values. Even the sign of the input operands doesn’t matter about the output.**

**Example:**

X = 15

Y = 6

**print(X/Y)**

**Output:**

2.5

### **2. Performing division using the ‘//’ operator**

**This method of division is considered the ‘true division’. The ‘//’ double slash carries out integer division which is also known as floor division. The output of this operator will be the quotient rounded off to the closest whole number. For example, 15 divided by 6 is actually 2.5 but it gets rounded off to 2.**

**Example:**

X = 15

Y = 6

print(X//Y)

**Output:**

**2**

**(ii) ‘\*\*’ & ‘^’**

**1. The "\*\*" operator is used for 'power of"**

**Example:**

Var = 3\*\*3

print(Var)

**Output:**

**27**

**2.The “^” operator compares each bit and set it to 1 if only one is 1, otherwise (if both are 1 or both are 0) it is set to 0:**

**Example:**

print(6 ^ 3)

**Output:**

**5**

**6 = 0000000000000110**

**3 = 0000000000000011**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5 = 0000000000000101**

Q.3. List the logical operators.

**A: Python has three logical operators: and , or , and not . Logical operators are used to combine conditional statements.**

* **The “and” operator is returns True if both statements are true**

**Example:**

**x = 5**

**print(x > 3 and x < 10)**

**Output:**

True

**It’s returns True because 5 is greater than 3 AND 5 is less than 10**

* **The “or” operator returns True if one of the statements is true**

**Example:**

x = 5

print(x > 3 or x < 4)

**Output:**

True

**It’s returns True because one of the conditions are true (5 is greater than 3, but 5 is not less than 4)**

* **The “not” operator reverse the result, returns False if the result is true**

**Example:**

x = 5

print(not(x > 3 and x < 10))

**Output:**

False

**It’s returns False because not is used to reverse the res**ult

Q.4. Explain right shift operator and left shift operator with examples.

**A:**

* **The “>>” left shift operator is shift left by pushing zeros in from the right and let the leftmost bits fall off**

**Example:**

print(3 << 2)

**Output:**

12

**The << operator inserts the specified number of 0's (in this case 2) from the right and let the same amount of leftmost bits fall off:**

**If you push 00 in from the left:**

**3 = 0000000000000011**

**becomes**

**12 = 0000000000001100**

* **The “>>” Right shift operator is shift right by pushing copies of the**

**leftmost bit in from the left, and let the rightmost bits fall off**

**Example:**

**print(8 >> 2)**

**Output:**

**2**

**The >> operator moves each bit the specified number of times to the right. Empty holes at the left are filled with 0's.**

**If you move each bit 2 times to the right, 8 becomes 2:**

**8 = 0000000000001000**

**becomes**

**2 = 0000000000000010**

Q.5. Create a list containing int type data of length 15. Then write a code to check if 10 is present in the list or not.

**A:**

**Mylist = (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15)**

**if 10 in Mylist:**

**print("Item 10 is present in the list")**

**else:**

**print("Item 10 is not present in the list")**

**Output:**

**Item 10 is present in the list**